VOL. XXXIX No. 9 SEPTEMBER 1954

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THE MECCANO MAGAZINE

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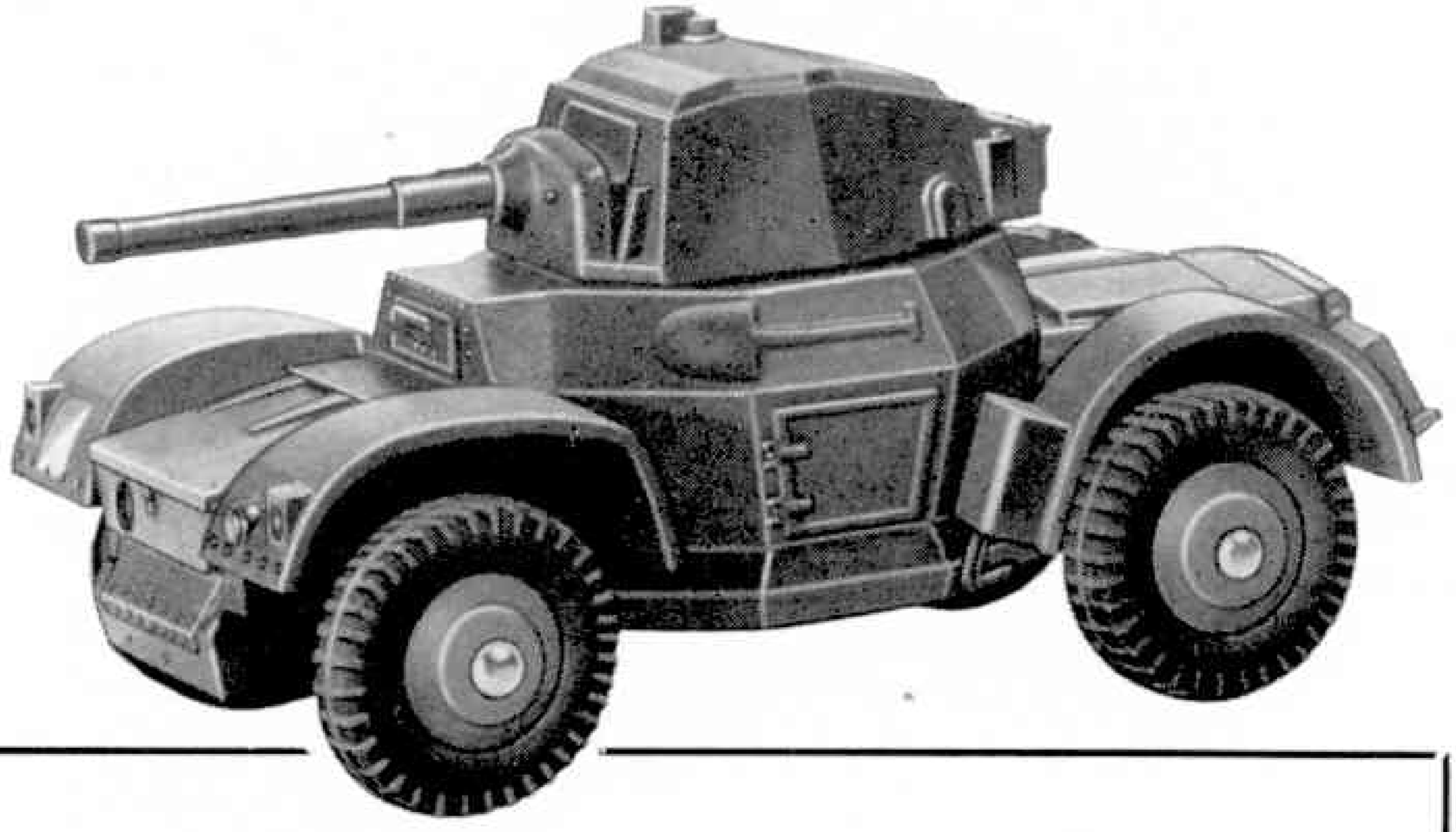

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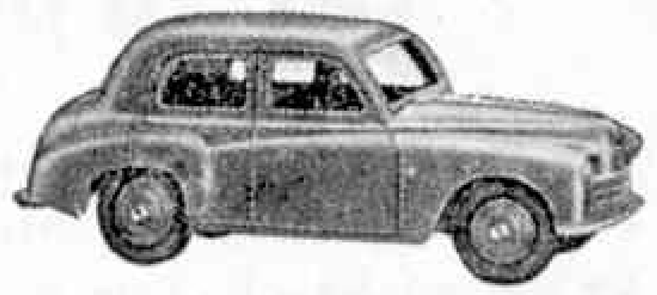
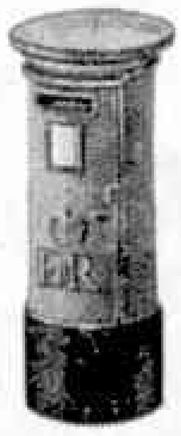
Army Vehicle
with driver
Length $2\frac{5}{8}$ in. **3/6**

No. 641
Army 1-Ton Cargo Truck
with driver
Length $3\frac{1}{8}$ in. **3/9**



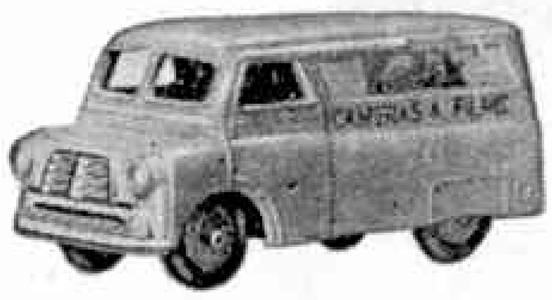
No. 154 (40f)
Hillman Minx
Length $3\frac{1}{2}$ in. **2/2**

No. 470
Austin Van "Shell/B.P."
Length $3\frac{1}{2}$ in. **2/11**

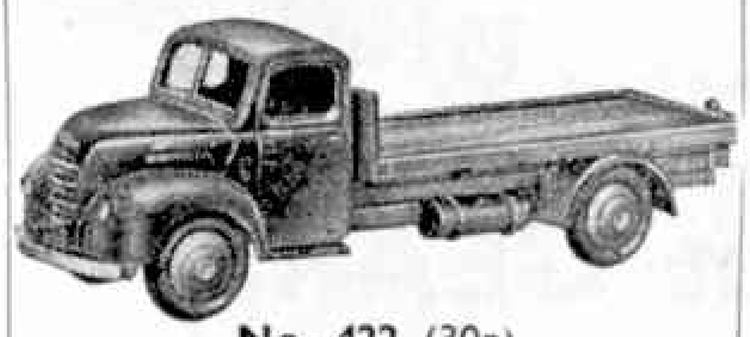


No. 760
G.P.O.
Pillar Box
Height $1\frac{5}{8}$ in.
10d.

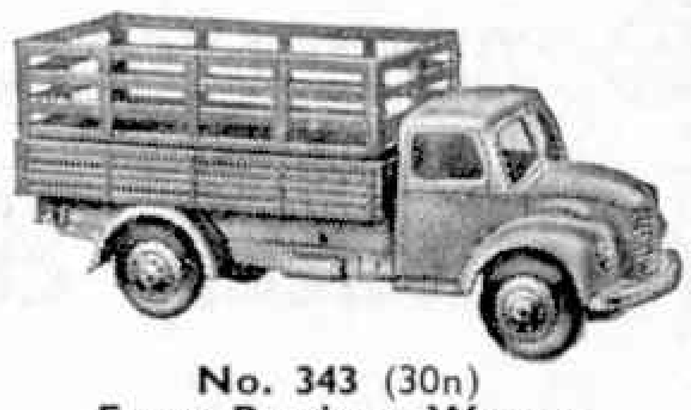
No. 253 (30h)
Daimler Ambulance
Length $3\frac{3}{4}$ in. **2/11**



No. 480
Bedford 10 cwt. Van "Kodak"
Length $3\frac{1}{4}$ in. **2/9**

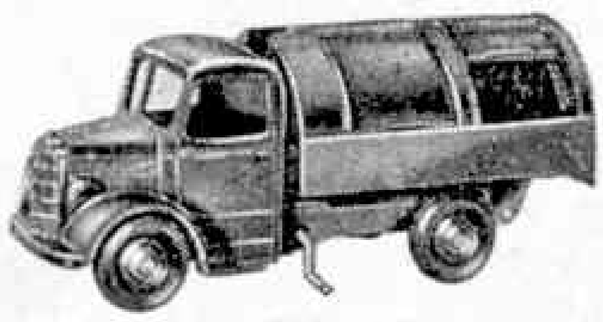


No. 422 (30r)
Fordson "Thames" Flat
Truck
Length $4\frac{1}{8}$ in. **2/6**



No. 343 (30n)
Farm Produce Wagon
Length $4\frac{1}{4}$ in. **3/6**

No. 673
Scout Car
Length $2\frac{5}{8}$ in. **2/11**



No. 252 (25v)
Refuse Wagon
Bedford Chassis
Length $4\frac{1}{4}$ in. **5/10**

No. 153 (40e)
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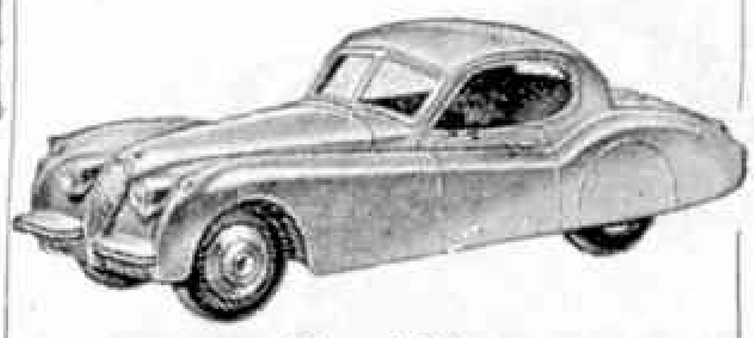
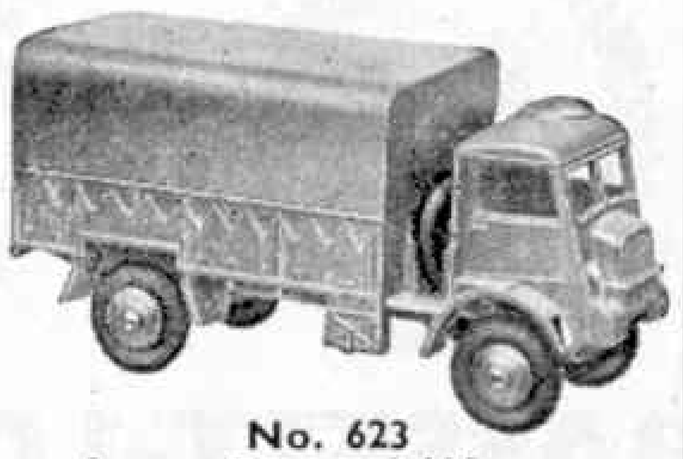
Length $3\frac{1}{2}$ in. **2/2**

No. 621
3-Ton Army Wagon
with driver
Length $4\frac{3}{8}$ in. **5/3**



No. 157
Jaguar XK120 Coupé
Length $3\frac{7}{8}$ in. **2/8**



No. 623
Army Covered Wagon
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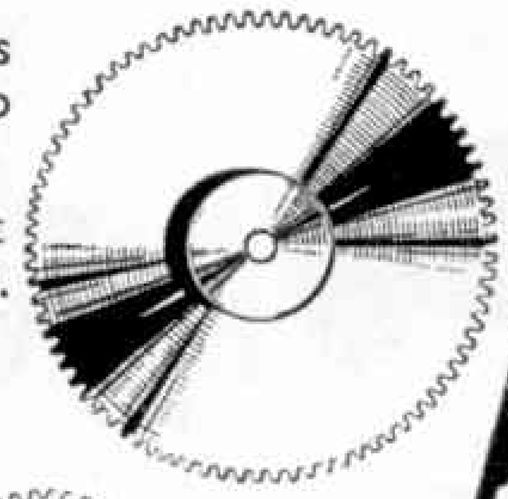

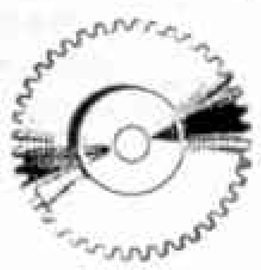

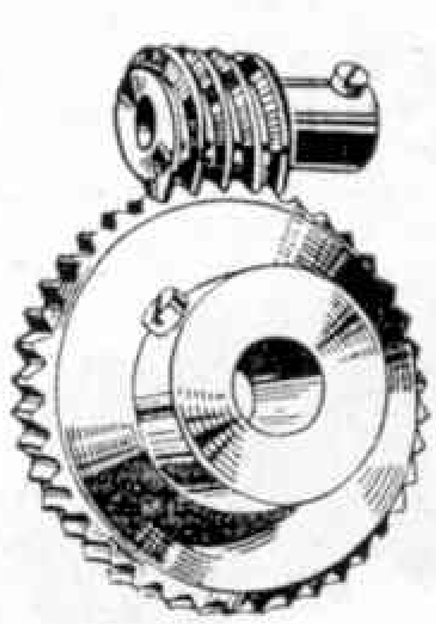

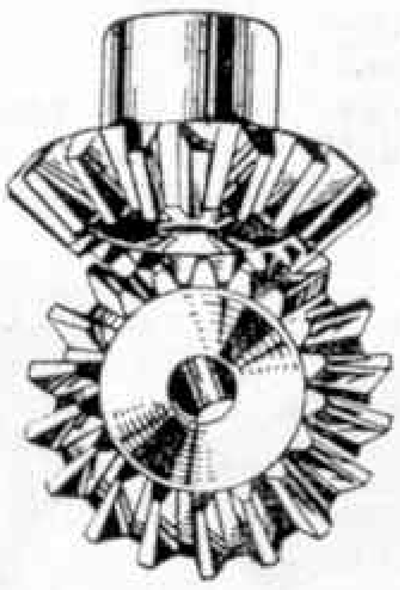

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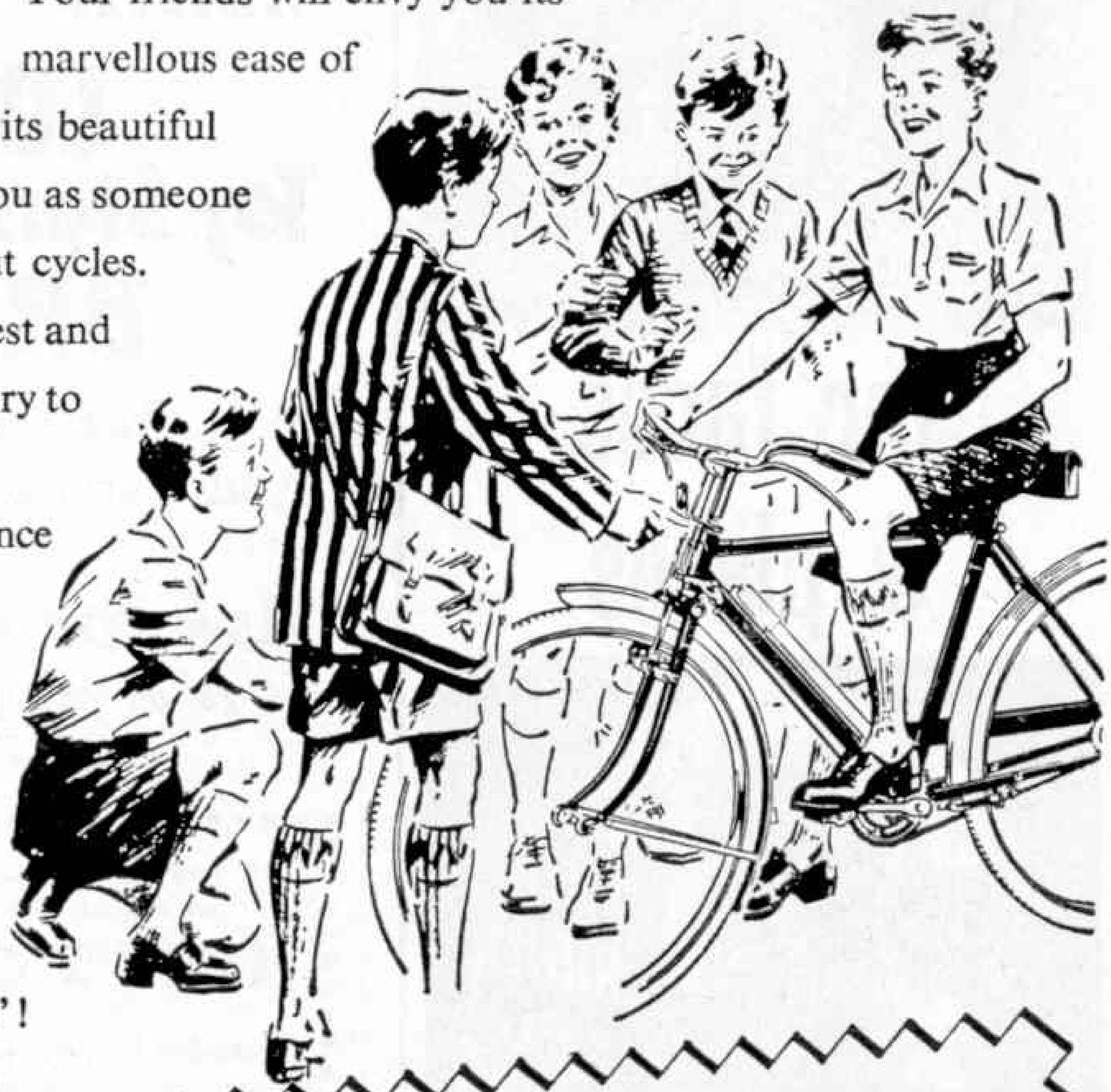

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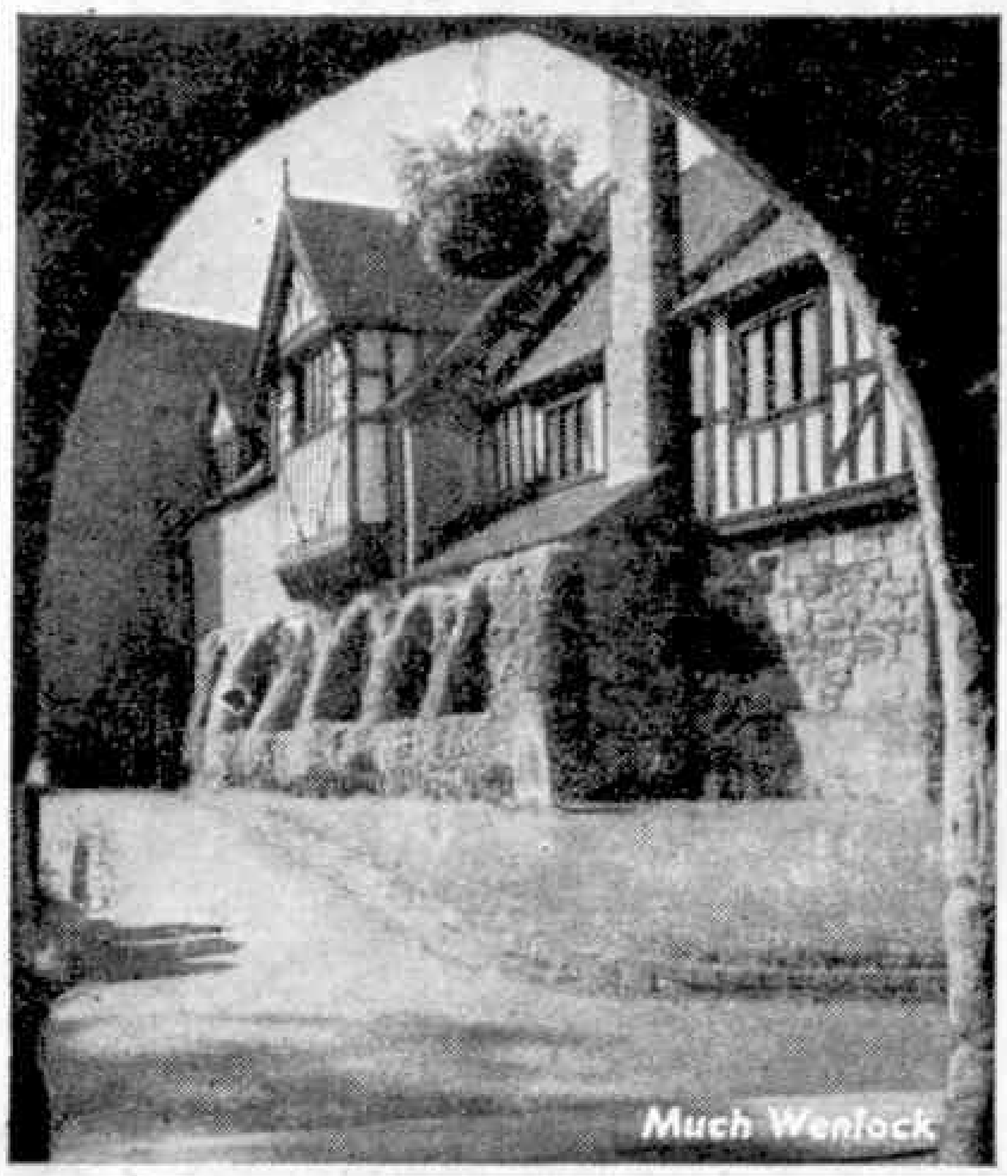

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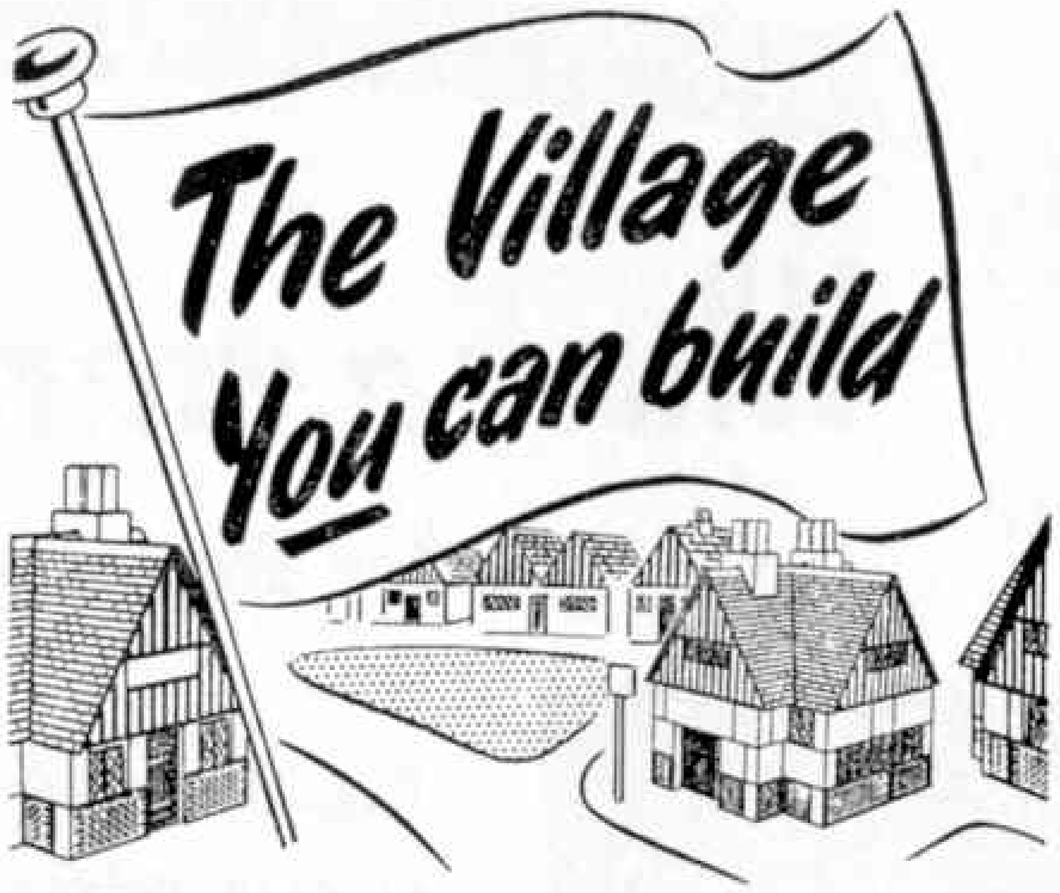

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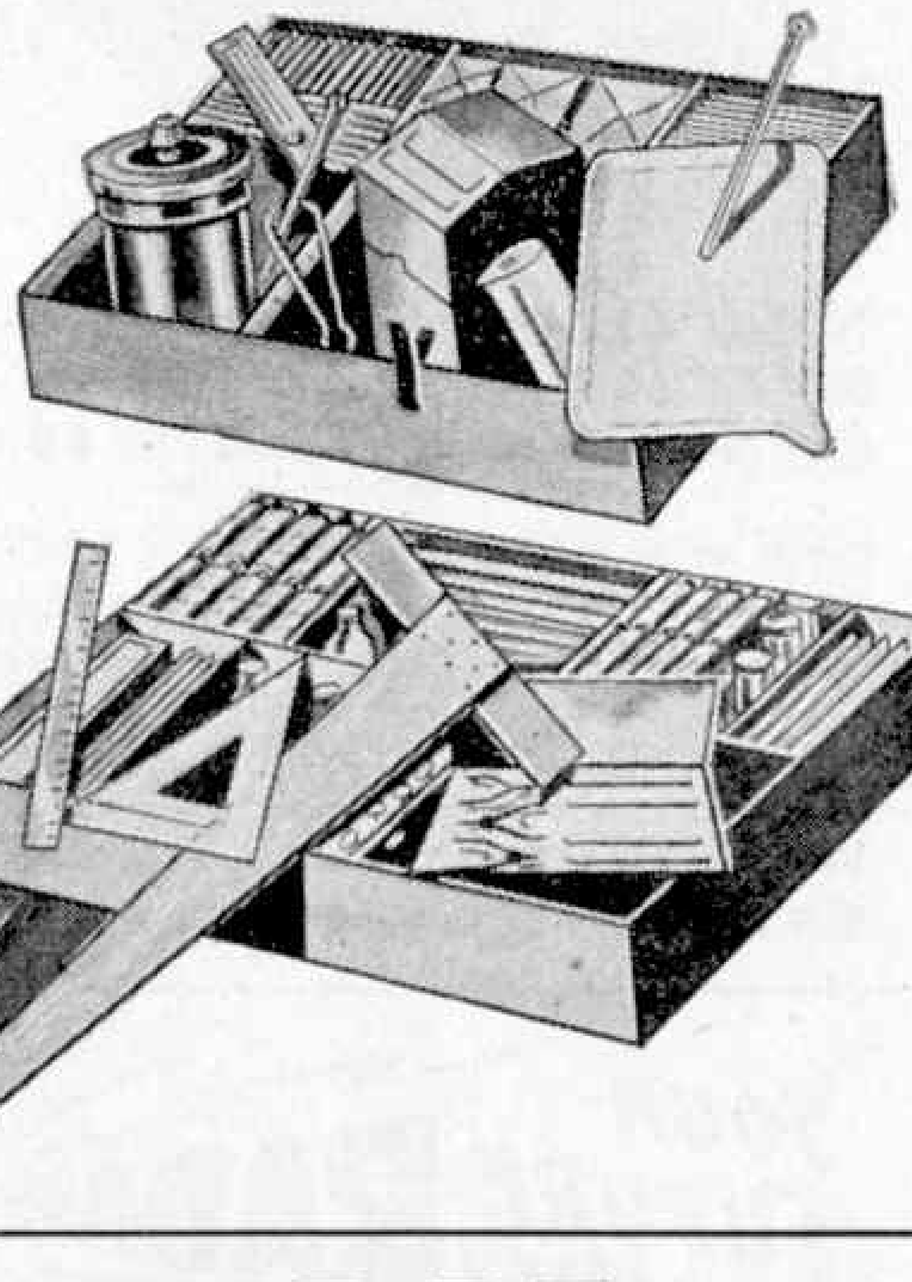

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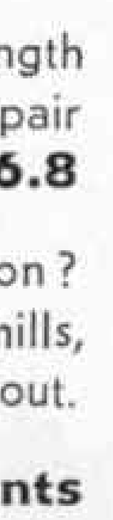

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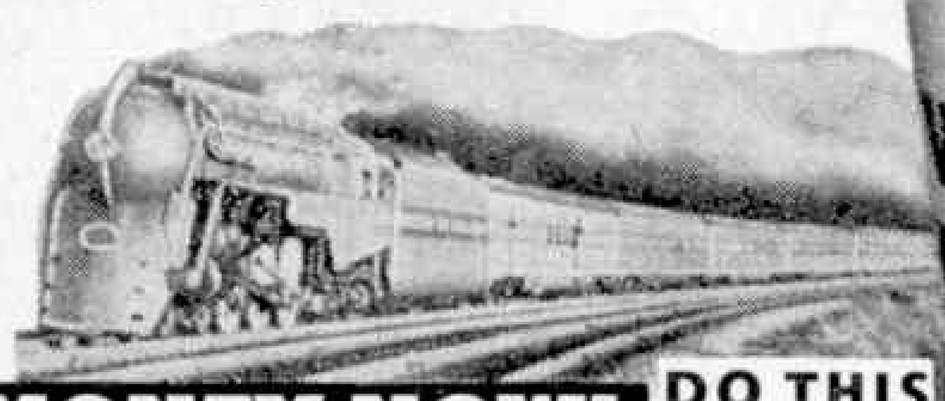

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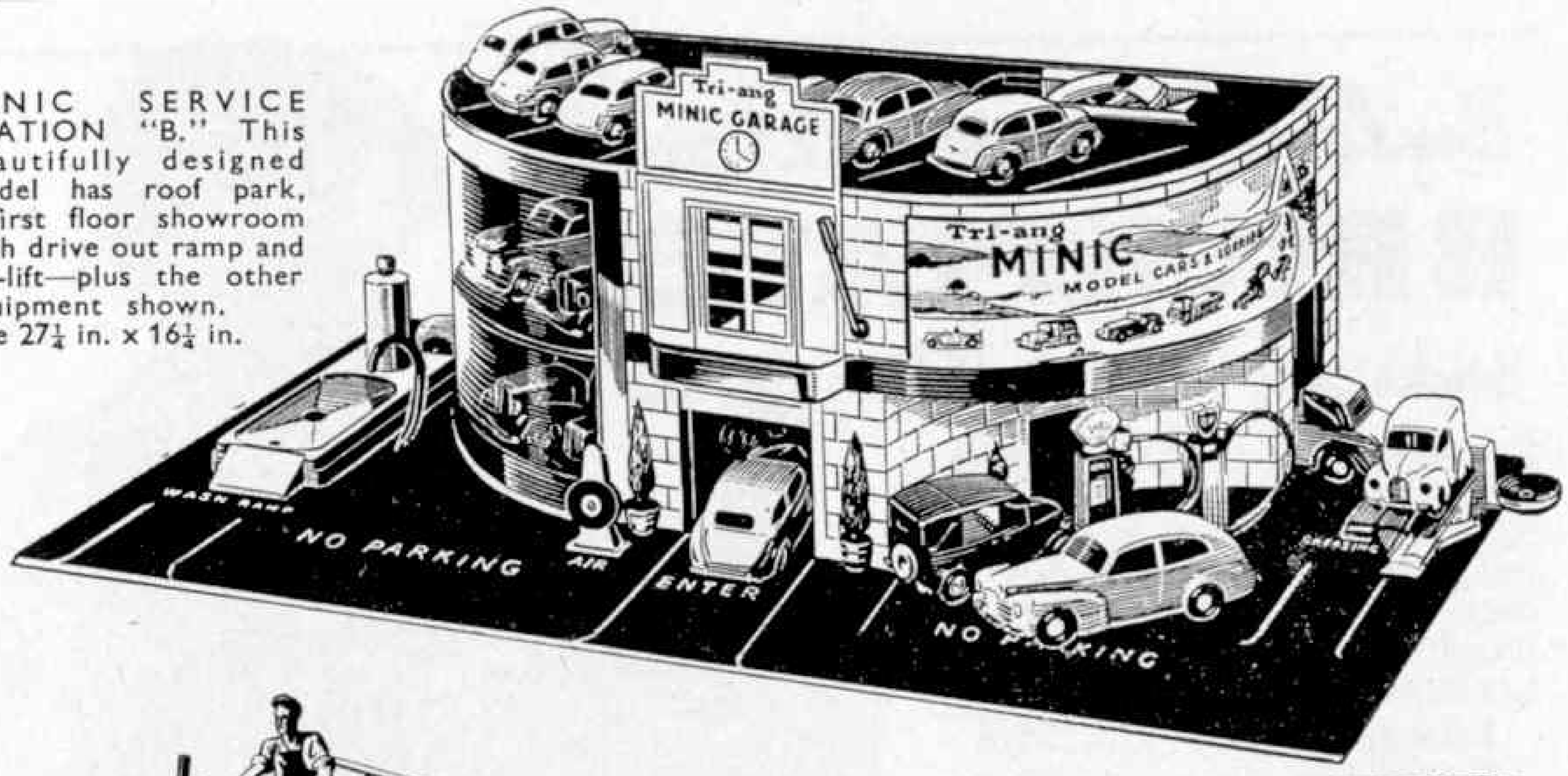
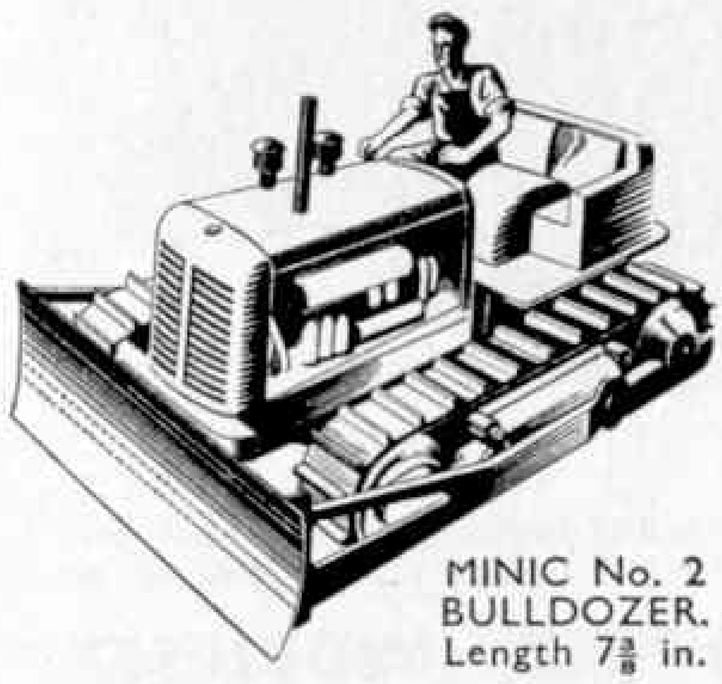


MINIC SERVICE STATION "B." This beautifully designed model has roof park, a first floor showroom with drive out ramp and car-lift—plus the other equipment shown. Size 27¼ in. x 16¼ in.



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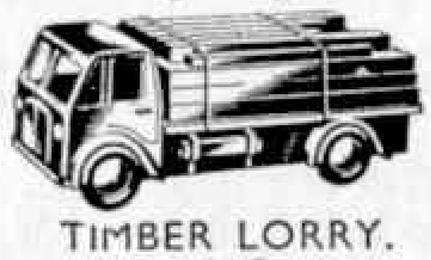

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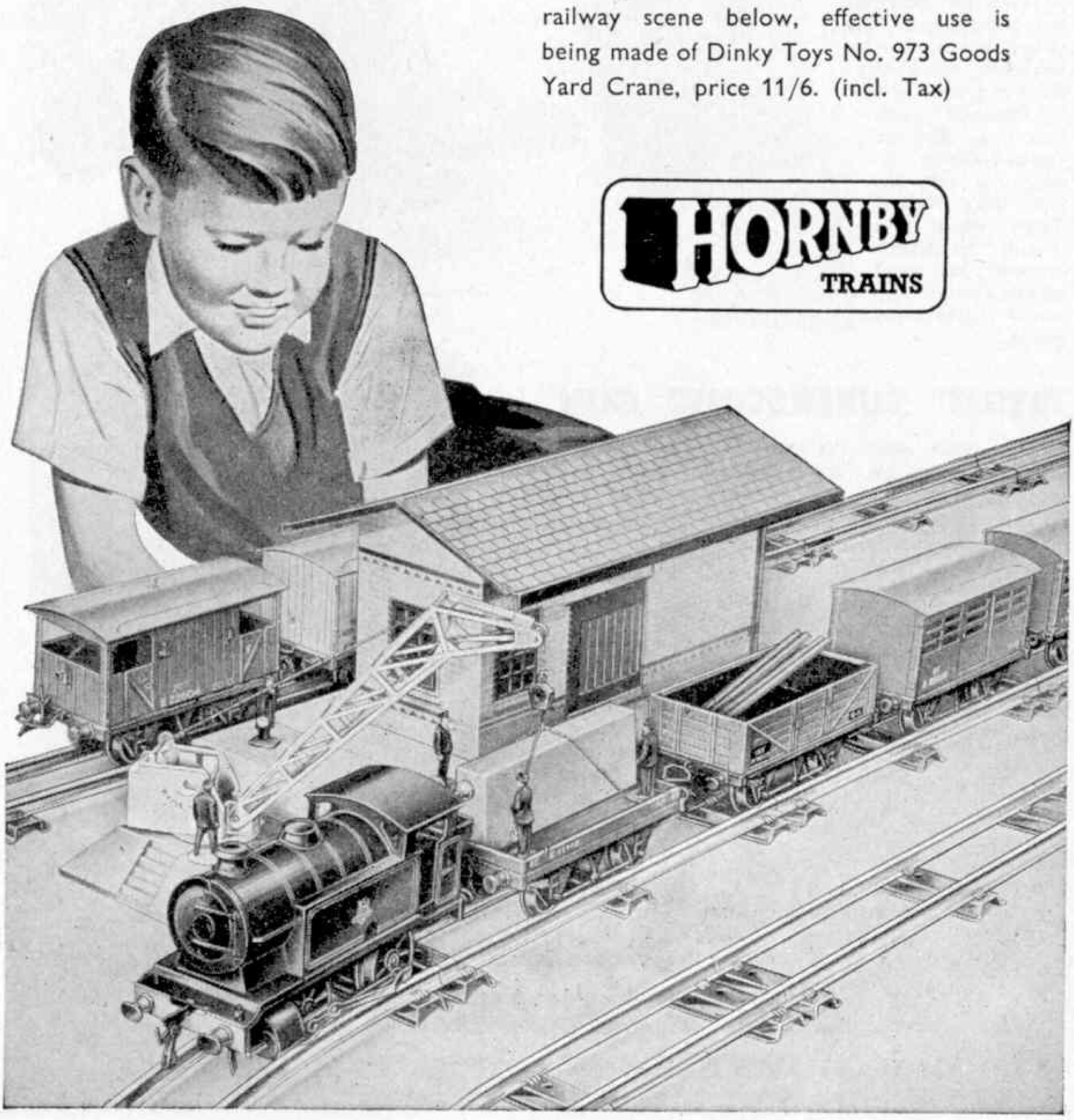
What opportunities there are for lasting fun with a goods depot made up of Hornby equipment. Hornby Clockwork locomotives—now in British Railways colours—are long-running and strong-pulling, and there is a variety of rolling stock and accessories to build up an exciting model railway. In the Hornby railway scene below, effective use is being made of Dinky Toys No. 973 Goods Yard Crane, price 11/6. (incl. Tax)

HORNBY TRAINS



Next Month: "THE FAIREY GANNET." By John W. R. Taylor

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Editorial Office:
Binns Road
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EDITOR : FRANK RILEY, B.Sc.

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Farthest North?

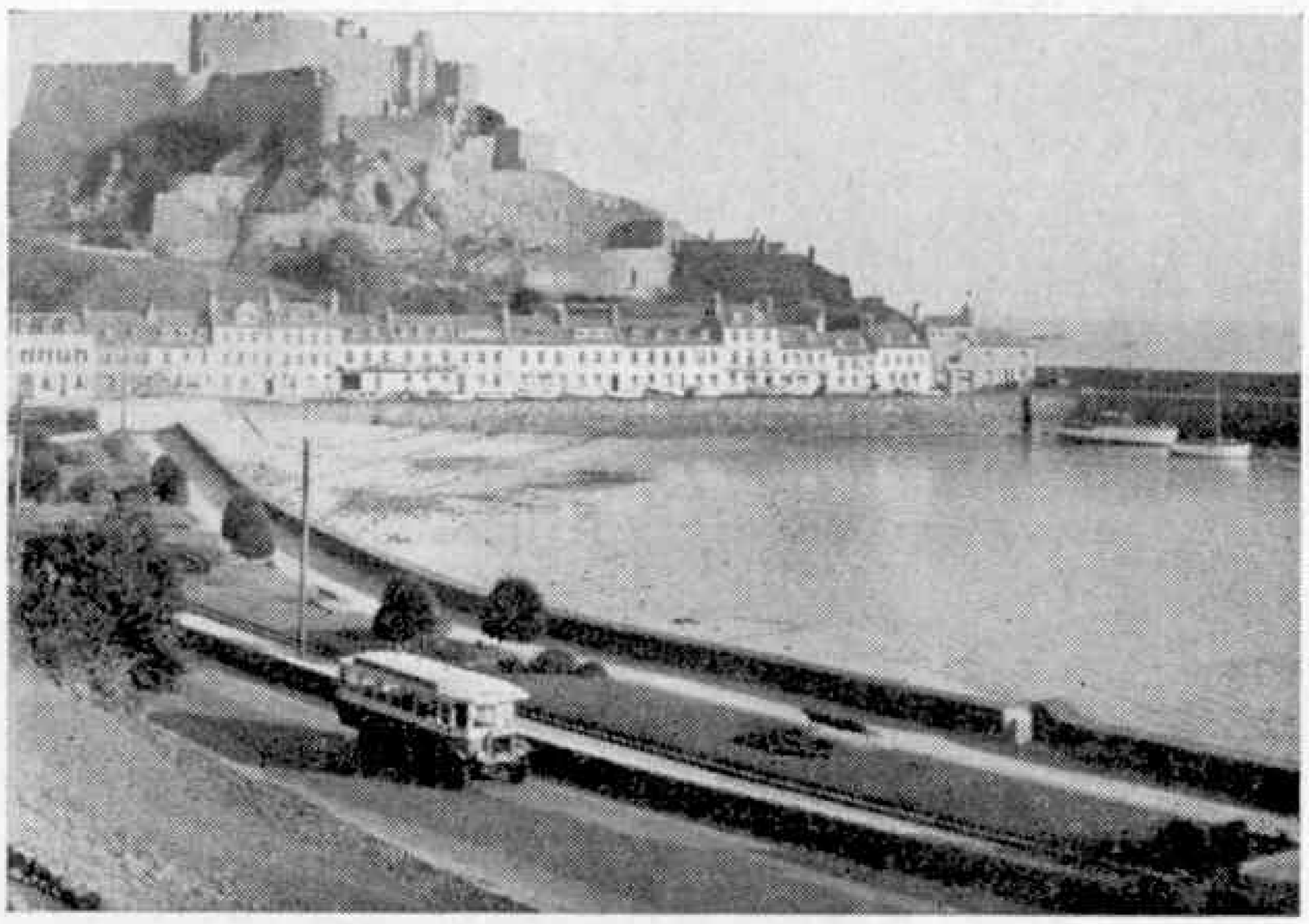
IT seems possible that the cover of the *M.M.* this month has reached its farthest north. At the moment I can only think of two covers that may have been more northerly, and even this is not certain, for they were the pictures of icebergs in the February 1940 and October 1946 issues; and icebergs can get a long way south of the tip of Greenland.

As a matter of interest, the highest latitude to which the Skye Line illustrated on our cover reaches is about 57 deg. 37 min. 30 sec.. and Cape Farewell, at the tip of Greenland, the land of icy mountains, is less than 2½ deg. farther north. It is certainly warmer on our side of the North Atlantic and that is why Strome Ferry station is not icy, or at any rate, was not Arctic in appearance when it was photographed by Mr. J. Allan Cash. The article associated with the cover, written by a railway enthusiast who has made a special study of the Skye Line, tells an interesting story and I am very glad that I have been able to introduce this railroad to the Western Isles to *M.M.* readers.

Now a look forward to the October *M.M.* It will be an outstanding issue for every reader, I should think, for two special articles in it will tell how Dinky Toys are produced. These will be well illustrated by pictures of actual scenes in the works at Speke where these world-famed miniatures are now produced.

When I think of the many millions of owners of Dinky Toys, I have no doubt whatever that these articles will be enjoyed immensely. A large proportion of my daily correspondence consists of letters from eager readers asking about the next new Dinky Toys to appear, telling me what they would like to see included in the series and in some cases demanding why I haven't already had miniatures made of their favourite motor cars or lorries! I expect that the result of the appearance of the special articles in the October issue will be an increased flow of letters—and that will be fine. The more the merrier!

The Editor



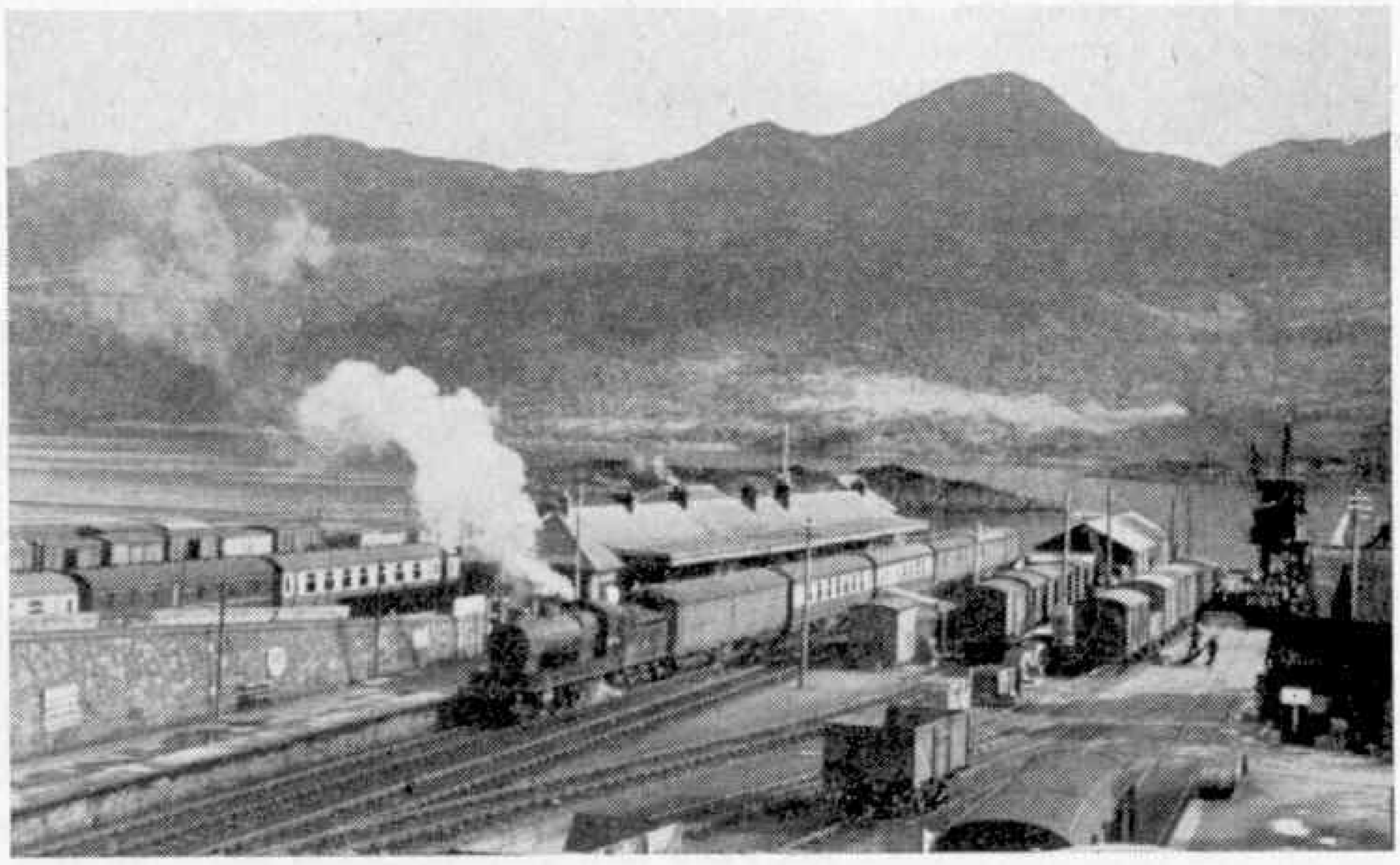
This Jersey view must be familiar to many readers. A quarter of a century ago, where there are now gardens beyond the road was the track of the Jersey Eastern Railway, with Gorey Pier Station on the left, as seen in the picture on page 458. Mont Orgueil Castle still dominates the scene.

The Road to the Isles

Story of the Kyle of Lochalsh Railway

By H. C. Casserley

I HAVE travelled extensively over practically all the main lines and most of the branches of the railways of Great Britain and Ireland during the last 30 years, and I am sometimes asked which I consider the most attractive route from a scenic point of view to be found in these islands. This is not an easy question to answer, not only because there are many miles of railway running through the most varied and beautiful parts of Britain, but also because not everyone has quite the same ideas as to what constitutes fine scenery. There can be little dispute, however, that some of the most fascinating railway journeys it is possible to make in the British Isles are to be made in Scotland, a country endowed with grand panoramas of mountain and loch that cannot fail to appeal to all who are fortunate enough to be able to spend a holiday there.



Kyle of Lochalsh station, the terminus of the Dingwall and Skye Railway. There Clan Goods No. 57956 is seen waiting to depart eastward on 22nd April 1952, the last time one of these engines worked a passenger train on the line.

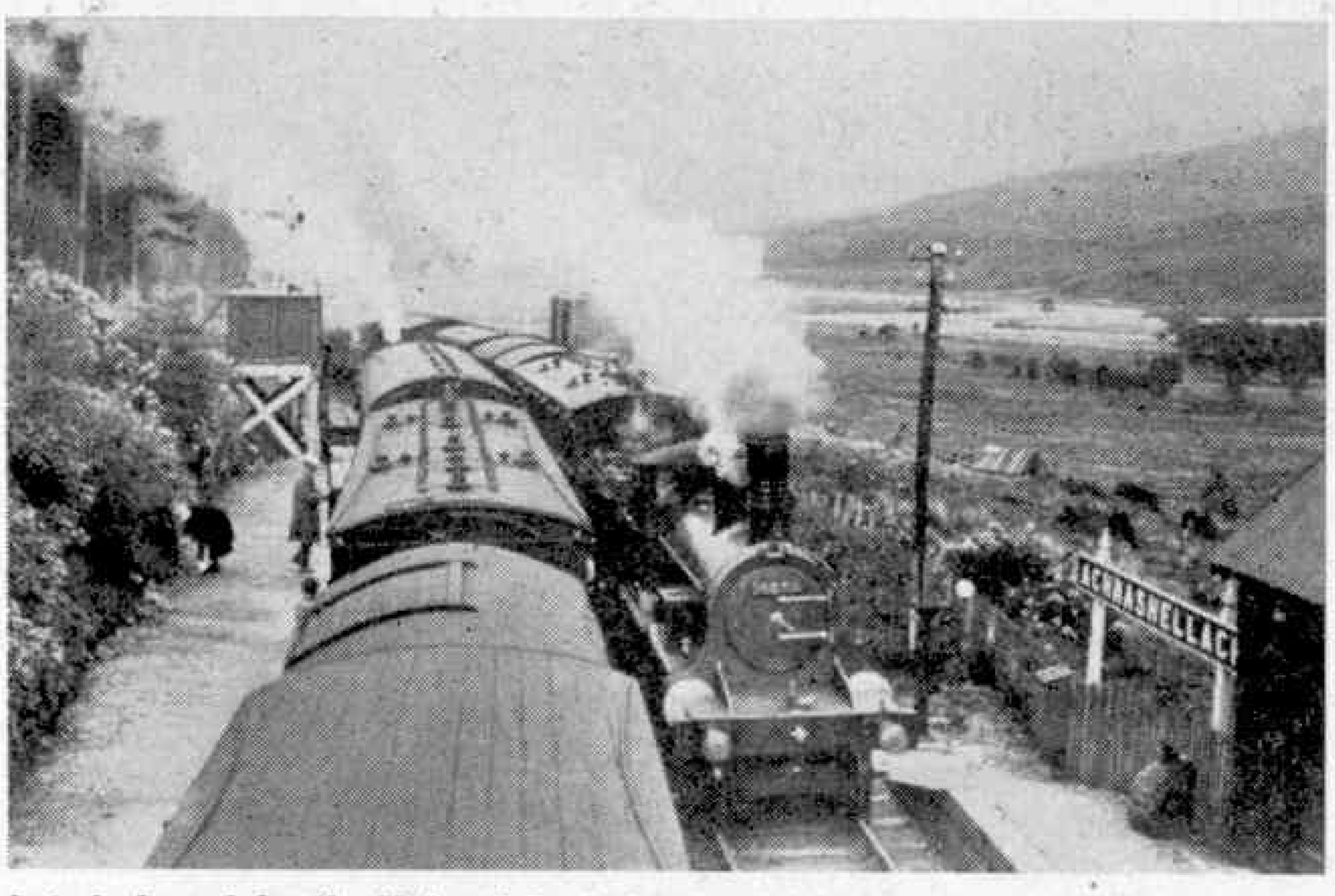
The principal scenic routes are those of the old Highland Railway from Perth to Inverness, with its summit 1,484 feet above sea level, the highest main line altitude in Great Britain, and the three lines to the west Coast. These are the former Caledonian to Oban, what was the North British to Fort William and Mallaig, and finally the old Highland to the Kyle of Lochalsh. Of these, the "West Highland", as the N.B.R. line to Fort William was known, is probably the finest of them all. But the other two run it very close, and it is the Kyle road with which we are immediately concerned.

Railway construction in the northern part of Scotland took place mainly during the 1860s. At this period the various independent concerns that were later merged into the Highland Railway were gradually extending up the eastern half of the country towards what ultimately became the most northern extremity of Thurso, although the terminus at Wick was actually the farthest from London in actual mileage. Consideration was given at the same time to extending the railway over to the west coast in order to give the Western Isles the benefit of rail communication.

A glance at the map will show that there are a great number of these islands lying off the west coast, of which the largest are Skye and Lewis. The country in these northern latitudes is extremely sparsely populated, and railway construction there, even at that time, never enjoyed much prospect of a great deal of traffic, except in the height of the summer season. It is therefore greatly to the credit of the early promoters that these lines were ever built, as they proved of great benefit to the inhabitants of these parts. Incidentally, they were found of inestimable value, particularly the far north road, for naval

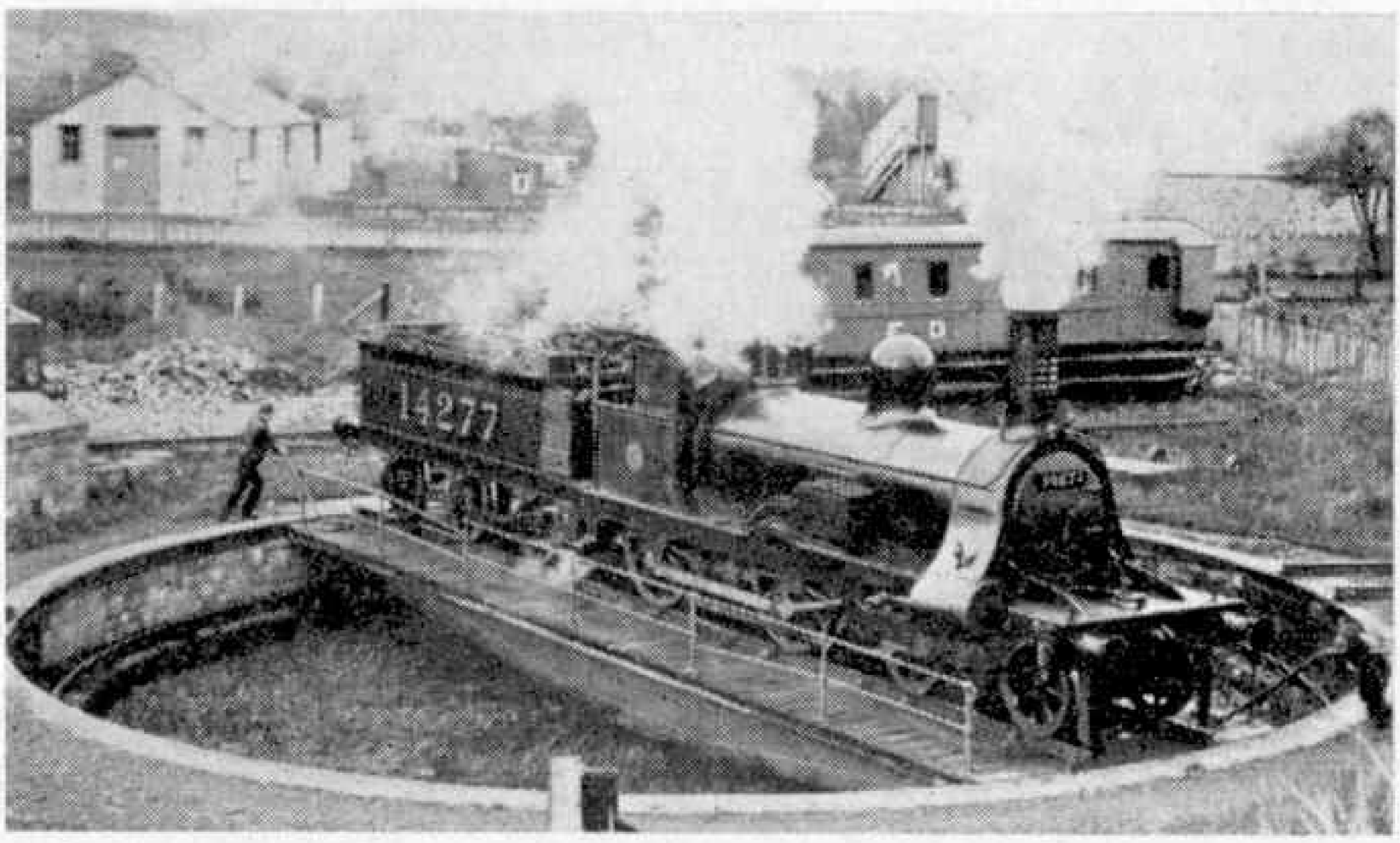
purposes during the two World Wars.

The Dingwall and Skye line, as it is known, was opened to Strome Ferry in 1870. It leaves the main line at Dingwall, 18½ miles north of Inverness, and strikes out in a westerly direction in difficult and mountainous country, following one of the few possible routes for the construction of a railway for 63½ miles to the small village of the Kyle of Lochalsh, immediately opposite Kyleakin on the island of Skye, which is served by a ferry. A boat service runs to Stornoway, 60 miles to the north, the largest town on the island of Lewis, and also serves Mallaig to the south, at the terminus of the West Highland extension from Fort William, to which I have already referred. The Skye line was not extended the 10½ miles to the Kyle of Lochalsh until 1897. The only branch was a short one near Dingwall, serving the popular spa of Strathpeffer, but this has now been abandoned and the rails lifted. A north westerly branch from Garve to Ullapool, the nearest mainland port to Lewis, was contemplated at one time, but unfortunately it was never built.



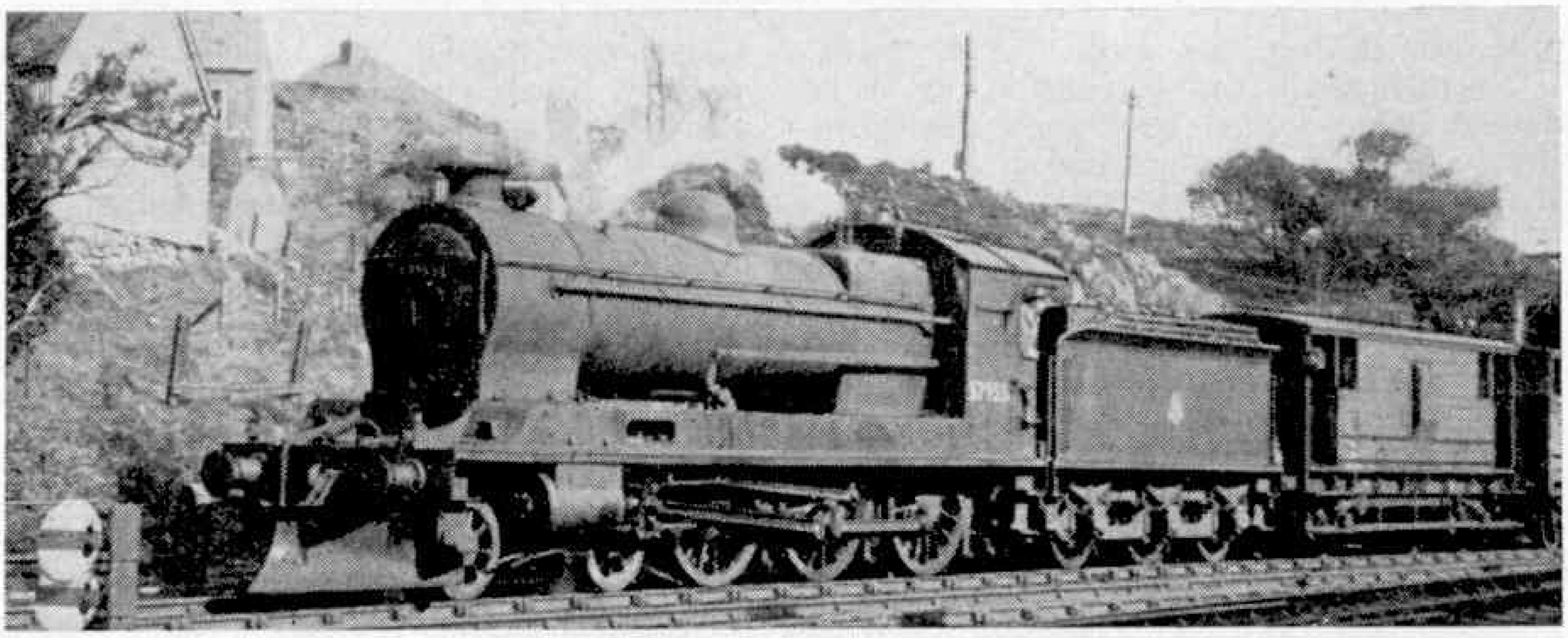
A train bound for the Kyle of Lochalsh headed by No. 14283, one of the Skye Bogies passes the up train at Achnashellach.

As is to be expected with a line running through difficult terrain, the gradients are severe, there being many banks of 1 in 50. There are no tunnels. At first sight this may seem surprising. In fact, throughout Scotland, with its extensive ranges of mountains, there are scarcely any tunnels. The reason for this is that the mountains are far too large to justify the enormous expense of tunnelling through them, so that they have to be climbed or circumnavigated. In common with other exposed lines in the north, the snow fiend has made winter working extremely difficult and hazardous, and in spite of all precautions blizzards sometimes sweep down from the north and completely engulf the railway. On one occasion during the winter of 1894-5 the Skye line was completely blocked for about two months.



The former Highland Railway Skye Bogie No. 14277 on the turntable at Kyle of Lochalsh. This type of engine was built for the Skye line and worked it almost exclusively until the late 1920s.

The passenger train service over the line has not varied a great deal during the whole of its existence. From the start



One of the Cumming Clan Goods, No. 57955. These engines worked on the Dingwall and Skye line from the early 1930s until their recent disappearance.

two trains were provided each way daily, sufficient for the needs of the sparse traffic; while for many years there have been two through trains from Inverness to the Kyle of Lochalsh, with one corresponding up through service to Inverness and two others terminating at Dingwall, connecting with main line trains from Wick. A restaurant car is provided on the principal down train from Inverness, which is detached at the small wayside station of Achnasheen, and there attached to the up train from the Kyle, thus providing refreshment facilities for part of the journey on each of the most important trains.

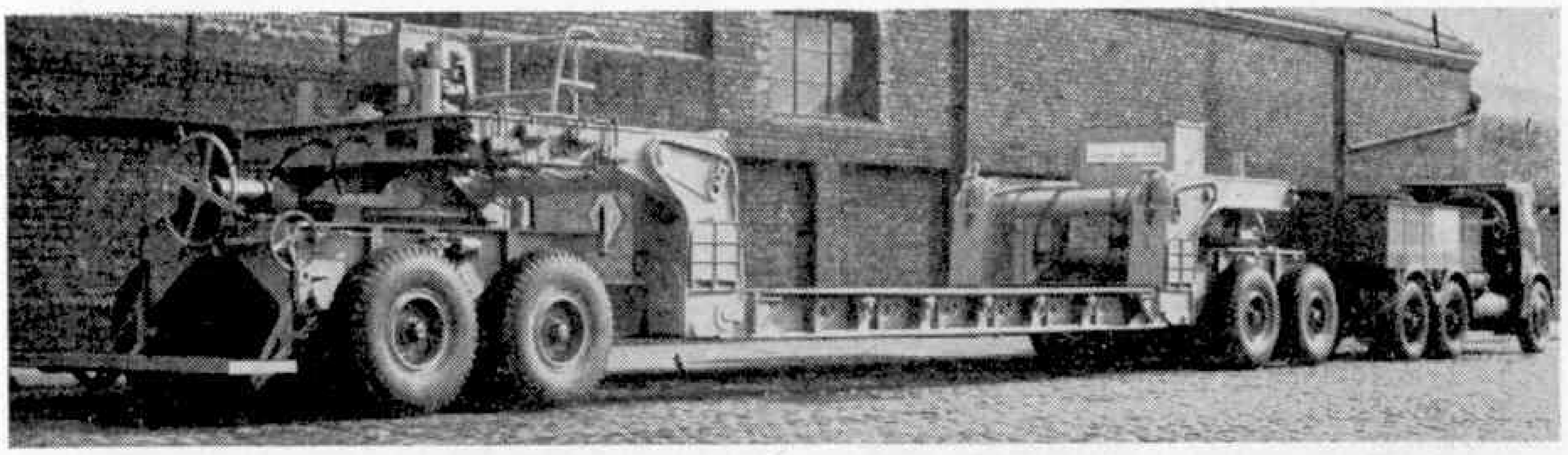
Early Highland engines were of the 2–2–2 and 2–4–0 varieties, neither of which was considered suitable for working the Skye line, which abounds in sharp curves. One of the 2–4–0s was accordingly rebuilt with a leading bogie, and as such became the prototype of the small wheeled 4–4–0s known as Skye Bogies, numbering eight engines in all, which worked most of the traffic until the early days of the grouping. They were numbered 14277 and 14279–14285 in the L.M.S. list, and were withdrawn from service between 1926 and 1930.

Oddly enough, although Highland 2–4–0s were never used regularly on the Kyle line, the L.M.S. in the early days of the grouping imported a Midland Kirtley engine of this type from Derby, and it was tried out for a short time. As might have been expected, it was no more suited to the road than any of the Highland engines, and it soon returned south again.

Besides the Skye Bogies, other 4–4–0 classes, the Lochs and the Small Bens also took their share in the working in later years. But to replace the Skye Bogies Mr. Cumming's large 4–6–0s known as the Clan Goods were transferred from the main line to the Kyle road, on which they worked for the rest of their existence. The last one disappeared only a year or so ago.

Trains are now almost exclusively in the hands of the ubiquitous L.M.S. Class 5 mixed traffic engines. To enable these to be turned at the Kyle of Lochalsh the turntable had to be rebuilt in 1946, and while it was out of commission a few L.M.S. 2–6–4Ts were sent to work the traffic, as they were suitable for running bunker first in one direction. This was almost the only instance of tank engines being employed on the line, except that during the first World War, when the Highland was desperately short of engines, four of Mr. Adams' 4–4–2 well tanks were borrowed from the London and South Western and sent up to work at the Kyle of Lochalsh.

Although the line can actually be reached at the Kyle of Lochalsh end by proceeding there by boat from Mallaig, it is best to follow it in the outward direction from Inverness, as the scenery becomes progressively finer as one approaches the western extremity. The grand climax occurs as one approaches the Kyle of Lochalsh itself, where the railway runs along the shores of Loch Carron for several miles. With its constant succession of sharp curves, when the engine is frequently visible from the rear of the train without leaning out of the window, and always with the lovely background panorama of mountain scenery, this must surely rank amongst the most beautiful rail journeys in all the length and breadth of the British Isles.



A New Dyson Trailer

THE fine trailer seen in the pictures on this page has been made for use in Dublin, where it will be employed on public works of various kinds, carrying heavy machinery such as excavators, draglines and trenchers. It was made in Liverpool, by R. A. Dyson and Co. Ltd., who claim to be the oldest and largest makers of trailers in the world. Some of their products have previously been described in the *M.M.*

This new trailer carries 45 tons, and has a wheelbase of 40 ft. 7 in. and a clear loading space 22 ft. long and 8 ft. 10 in. across. The width of this loading space can be increased to 10 ft. 6 in. by swinging out eight triangular folding outriggers on each side.

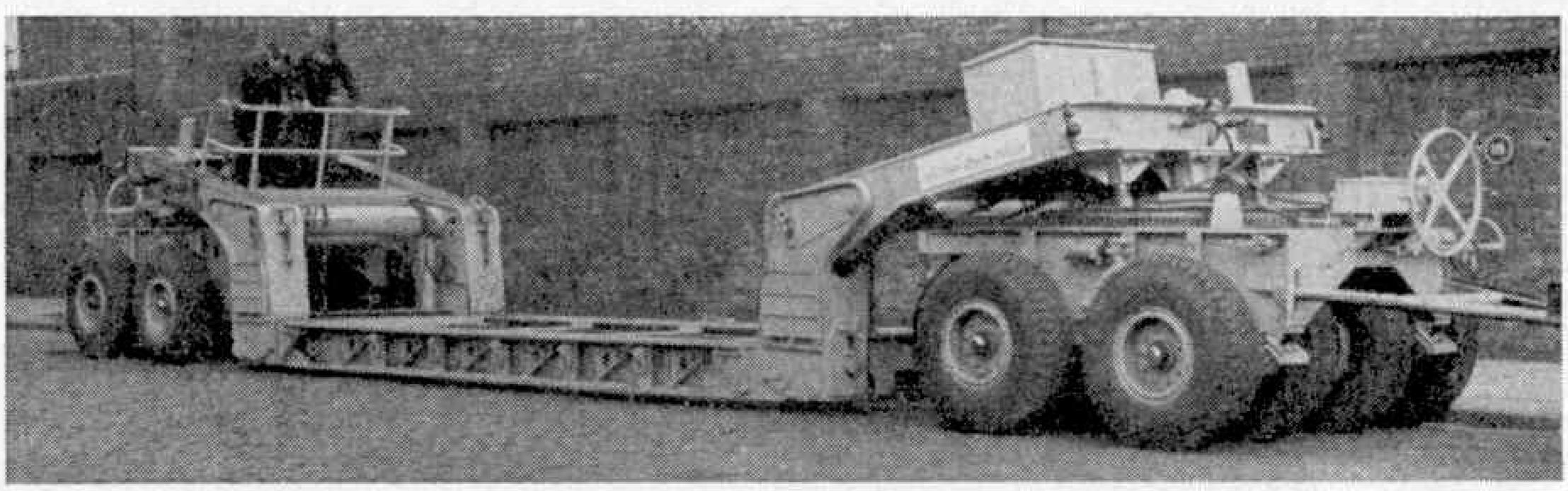
The normal ground clearance is 1 ft. 9 in. This is sufficient for general use, but there are times when a vehicle of this kind loaded with heavy equipment may be unable to pass under low bridges. To avoid the necessity of taking off the load and dragging this separately under such a bridge, the trailer has been so designed that the centre bed can be lowered quickly to within 5 in. or 6 in. of the ground. Ground clearance may have to be increased when passing over rough ground or a hump back bridge, and then the centre bed can be raised to a height of 2 ft. 3 in.

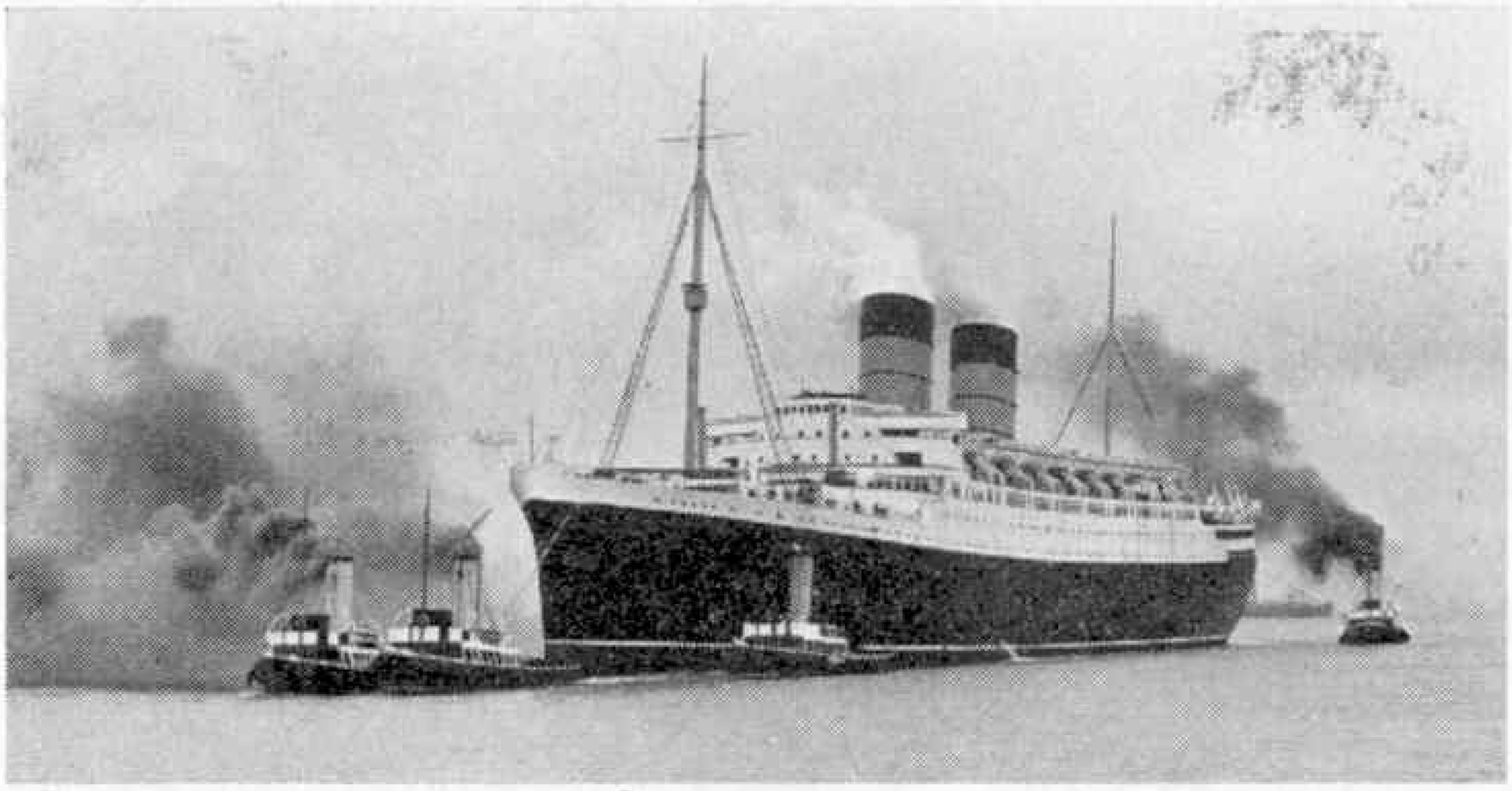
The trailer illustrated on this page has been built for use in the Department of Public Works, Dublin. The centre bed, which weighs 7 tons 7 cwt., can be set to give ground clearances varying from 6 in. to 2 ft. 3 in., and in our lower picture is shown in its low loading position.

These changes are made possible by a patented method of construction, in which the top deck beams are hinged and are secured in different positions by detachable pins. Both front and rear bogies also can be detached, with the cranks, leaving the straight centre bed resting on the ground for loading or unloading. It only takes about ten minutes to detach and remove one carriage, together with its crank.

The trailer can be towed from either end, and the rear bogie can be controlled either by hand steering, or by means of a tractor attached in its rear. If desirable the steering also can be locked in a straight line. The steering of the front bogie also can be controlled in these three ways.

The trailer is of all-welded construction which is the standard method of building up Dyson trailers. Brakes are fitted to all wheels, and are operated by the Clayton Dewandre two-line air pressure system, which automatically applies the brakes if by any mischance the trailer breaks away.





Cock tugs handling an ocean liner.

Towing a Great Liner

Across the Mersey in a Tug

By the Editor

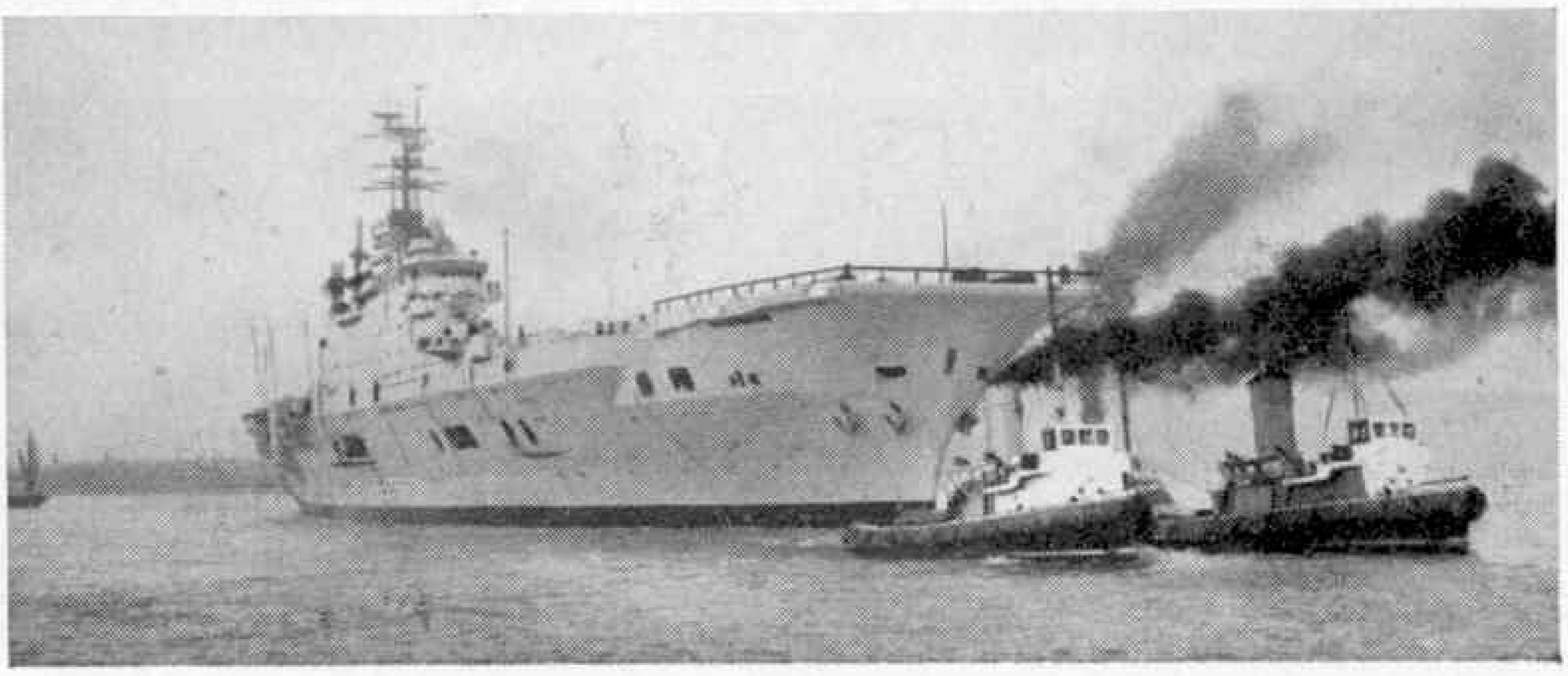
LAST month I told you how *Fighting Cock* and her companions brought the *Cheshire* down to the lock at the entrance to Birkenhead Docks, ready to take her out to the Mersey when the tide had risen sufficiently. On arrival there the tow rope was cast off and *Fighting Cock* was moored to the dock side.

Here Captain Wright and his crew left us, for their "24 hours on" was now over, and a new crew came on board. Captain Physick, the oncoming Skipper, was a little surprised when he found me comfortably esconced in his quarters, but it was only necessary to tell him that I was the Editor of the *M.M.* to make him realise at once that I had every right to be there.

Of course I went down into the engine room. Tugs want power, and although *Fighting Cock* is only just over 100 ft. long she has a 1,250 h.p. engine, in perfect order. It has to be in perfect trim, for a tug must not only be ready to start at a moment's notice, but must respond instantly to any order that comes down from the wheelhouse, even if the previous one had been given only a second or so before. The engineer below indeed, with his hand on the reversing lever, has to keep a mighty close watch on the engine room telegraph and indeed must be on the alert all the time.

Those of you who visit Merseyside, or some other place where tugs work, must have noticed the curved rail at the stern on which the tow rope often rests. This is the tow rail, and it keeps the tow rope clear of obstacles on the deck. The hook to which the rope is attached is fixed on what is called the tow bow, which is fastened to a specially strengthened bulkhead that can take up the immense strain. I had already noted how easily and smoothly a tow is taken up, and I found the reason for this in strong helical springs mounted behind the tow bow.

I remembered stories of action in

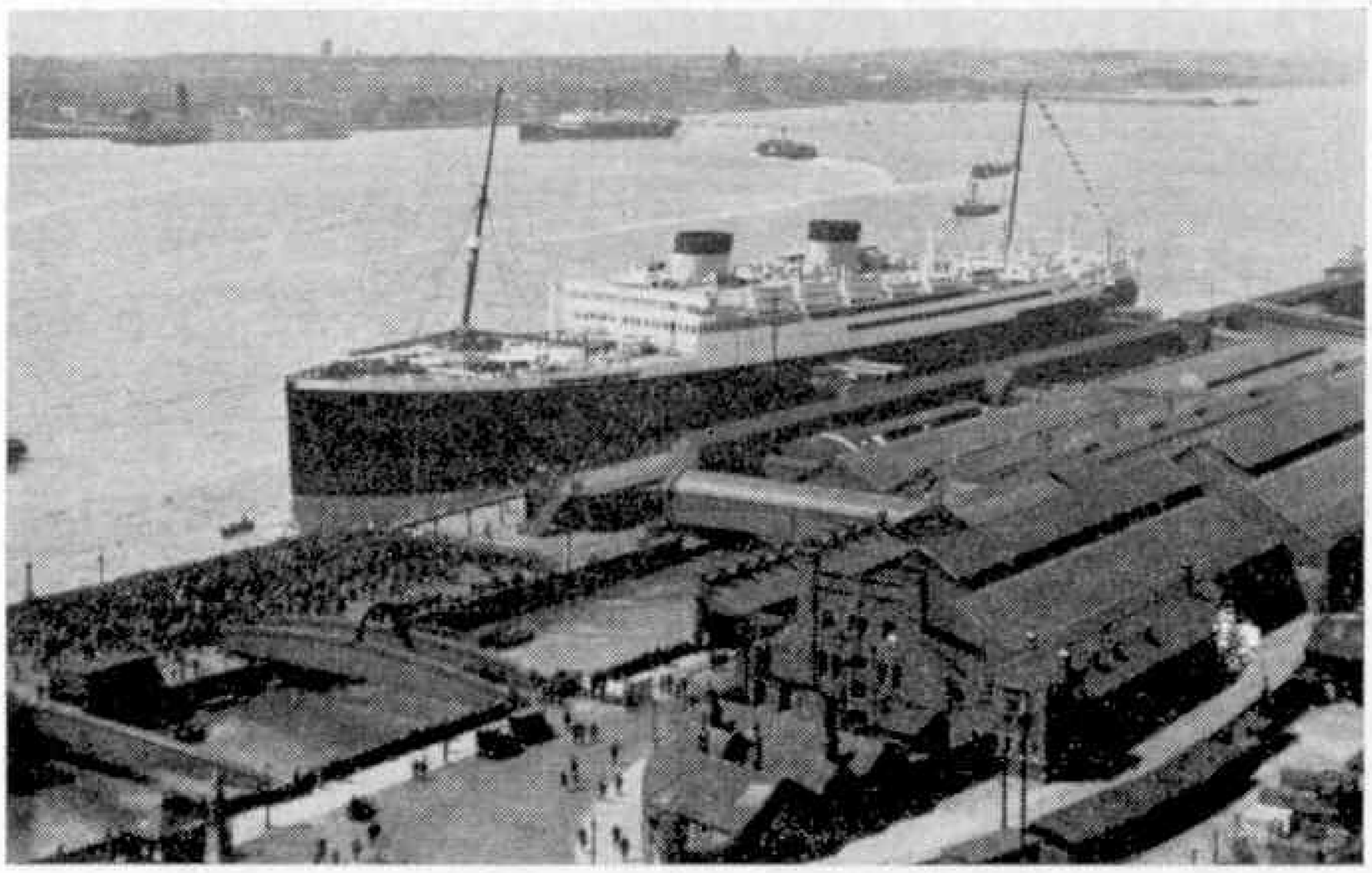


Cock tugs with Ark Royal.

emergencies, when it became necessary to part the tow rope to avoid disaster and enquired about the axe with which the rope is cut on these occasions.

"Oh, we've got the axe," I was told, "but nowadays we use the 'tripping stick,' which we call the tugman's friend," and my informant picked up a short heavy stick with a head made by binding rope tightly round it. "All we should do in emergency is to hit the top of the hook, like this."

The hook, a patent one, fell apart when it was struck in this manner, tripping the tow rope immediately. So there goes another story—but it is satisfactory to know that the axe is still there, and no doubt it will continue to be wielded in yarns of sea life for many years to come!



A liner tied up at the Pier Head. She is the Cunard-White Star Britannic. A Wallasey ferry boat crossing the River to Seacombe can be seen beyond her funnels.

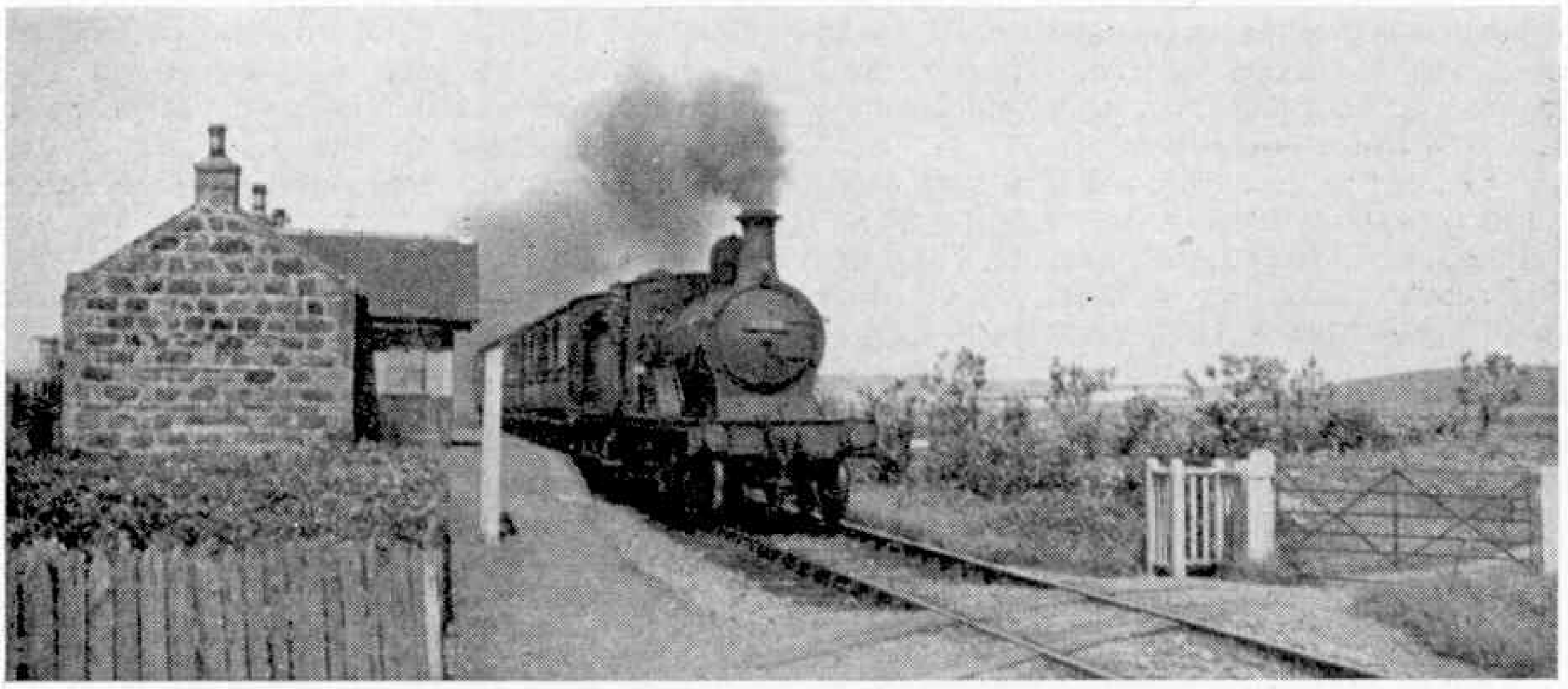
The levels of the water in the basin and the lock were now the same, and before long the tow line had been picked up again and we were stationed behind the *Cheshire*, which of course was to enter the river stern first. This time there was only a single tow line, but the gog rope was on. The gog iron is a double eye fixed to the deck of the tug, and the tow rope was pulled down towards it by another rope, known as the gog rope, and tied there. So from the tow bow forward it ran along the centre line of the tug before mounting upward to the bows of the *Cheshire* towering over us. This simple contrivance made sure that the tug would follow the *Cheshire* exactly as she went out into the river, hauled of course by the tug still attached to her stern, and was swung round to bring her bows pointing down river.

Out in the river the leading tug turned upstream, taking the *Cheshire* around with her, and *Fighting Cock* followed closely, so that when the way was taken off the *Cheshire* she was in line ready for towing across the river to the Landing Stage, which we could see clearly about three quarters of a mile away.

Storm Cock at the stern of the *Cheshire* cast off and at a signal *Fighting Cock* began to forge slowly ahead, bringing with her the *Cheshire*. Again there was no jerk as the strain was taken, thanks to the springs behind the tow bow, and the trip across the river began smoothly and easily.

At first the two vessels, the comparatively small tug seemingly leading the great liner by the hand, moved down river, and when there was sufficient way on we turned to starboard until the *Cheshire* was crossing the stream almost at right angles. All the time Captain Physick was watching the tow rope, and keeping an eye on the course of the *Cheshire*, which of course was being steered under the direction of the pilot on board. The engines were going full speed ahead, and the Skipper constantly turned the wheel a few spokes this way or that to keep on the right course.

"There goes the flag," said Captain Physick, meaning that on the Landing Stage, ahead of us, the berthing crew of the liner's owners had run up their flag to mark the position where the bow of the *Cheshire* was to be when she was berthed. Between them Captain Physick and the pilot of the *Cheshire* got the liner on the course that would allow her to come up alongside the stage, with her bows to the rising tide, and with superb judgment she was taken slowly along until her bows were close to the Stage at the point marked by the flag. With a rising tide water runs out from behind the Stage, so here *Storm Cock*, which had accompanied us across the river, nosed against the port side of the liner, to keep her stern from swinging outward—her bows of course were (*Continued on page* 458)



A Railway Centenary

The Great North of Scotland Line

By G. H. Robin

THE centenary of the smallest of Scotland's five main pre-grouping railway companies, The Great North of Scotland Railway, takes place on the 12th of this month. This little Scottish company was in existence for some 69 years before it became part of the London and North Eastern Company in 1923. Its oldest constituent section was the Morayshire Railway, which was opened from Lossiemouth, on the shore of the Moray Firth, to Elgin in 1852. Its headquarters were always in Aberdeen, however, and the line was constructed to supersede the Aberdeenshire Canal between Aberdeen and Inverurie, and to be continued to Keith and Elgin, and possibly Inverness.

A typical G.N.S. passenger train, hauled by one of the small 4-4-0s, B.R. No. 62230, passing Philorth Halt in the Buchan section.

The main line started from Waterloo station, which is now the site of the goods station on Waterloo Quay, but was opened from a temporary station at Kittybrewster to Huntly on 12th September 1854. It was later extended to Elgin via Dufftown, but despite various proposals this was as near to Inverness as the line ever got, though it later obtained running powers over the former Highland Railway to that town, in consideration of which the Highland was permitted to enter Aberdeen via G.N.S.R. metals.

"The Great North," as the line was known locally, was a very compact affair of some 336 miles. All developments, except for a very few miles, were confined to the counties of Aberdeen, Banff and Moray, where various lines were taken over, including the famous Deeside Railway used by Royal trains on journeys to and from Balmoral Castle, leased since 1866 and absorbed in 1875.

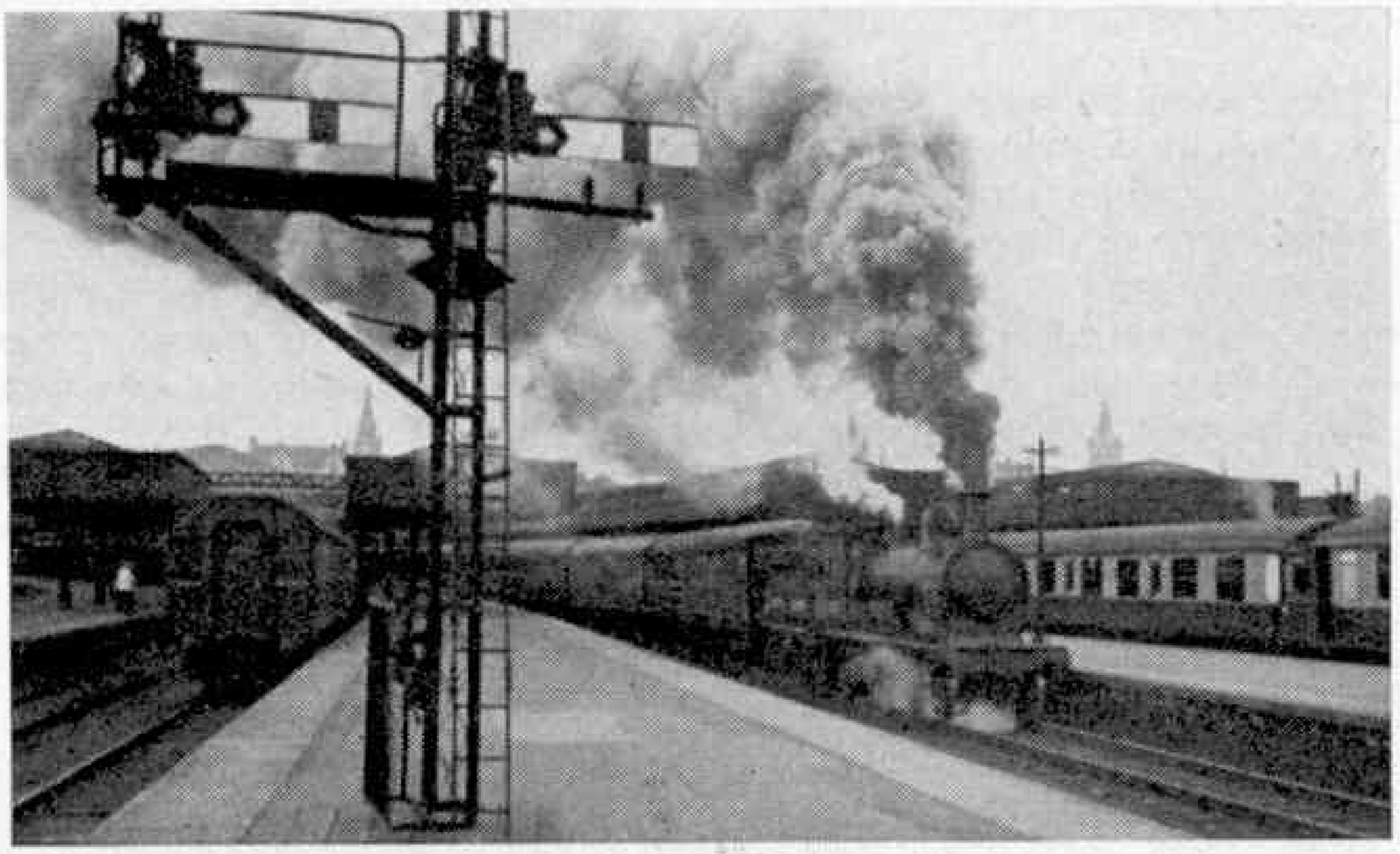
At first the G.N.S. was a most delinquent little railway company, unpunctual, careless of the comfort of passengers and inattentive to working arrangements with other companies. In fact, the station staff at Waterloo, Aberdeen, would wait with fiendish delight until passengers from South connections walking from Guild Street station were almost at the G.N.S. station, when they would flag off the North train, leaving the unfortunate travellers with a long, weary and inconvenient wait for the next train.

After much pressure by the Scottish North Eastern Railway, later the Caledonian, the construction in 1867 of the Denburn Valley Line from Kittybrewster down to a new and joint station with the Caledonian and Deeside Railways at Guild Street did a lot to provide better connections. With the opening of the direct line between Inverness and Perth, later known as the Highland Railway, the G.N.S. directors really began to see the error of their ways. Upon realising their responsibilities indeed, they turned the tables so completely that after 1880 the Company became known as "Little but Good."

The new joint Aberdeen station had only one very long through platform with two bays at each end, and traffic increased to such an extent as to warrant reconstruction on the same site. The result was the fine station in use today. This has 13 platform lines, four of which are "through" and was completed in 1915.

Although the Company had several eminent locomotive superintendents in its employ, among them Johnson of the Midland, Manson of the Glasgow and South Western, and Pickersgill of the Caledonian, it was never in the forefront in regard to locomotive power. Indeed, owing to the low axle loading permitted, and the moderate demands of the light trains run, nothing bigger than 4–4–0 tender engines were built for the Company. They were in the unique position in our island of having no 0–6–0 tender engines, and 2–4–0 and 4–4–0 engines performed all duties, except for a few tank engines employed in suburban, dock and yard workings.

The G.N.S.R. had little or no mineral traffic, and its passengers were picked up from stations solidly built of granite in sparsely populated and scattered areas. But from many seaside villages and ports it handled a large fish traffic that was worked very efficiently, mostly over single line. The main line was doubled only as far as Dyce, 6¾ miles, for the opening of the Buchan section in 1865, and no further doubling was completed until 1880. It was not until 1900 that the 53 miles to Keith were doubled.



No. 62274 "Benachie," one of the later G.N.S. 4-4-0s with side window cab, leaves Aberdeen for Ballater.

The "little but good" railway left its mark in regard to safety by the introduction of the tablet exchange apparatus invented by Mr. James Manson when Locomotive Superintendent. This allowed the mechanical exchange of single line tablets at speed. Workshop conditions were improved in 1903 by the transfer of the locomotive building shops from Kittybrewster to Inverurie by Mr. Pickersgill.

Apart from a bowstring arch bridge over the River Spey near Garmouth, and a skew bridge beyond Huntly over the Deveron, the railway had no outstanding engineering features. Nor were there any tunnels of note.

Engines were painted green, with varied lining, until 1917, when black was adopted. The early coaches were dark brown, but a purple lake and white livery introduced in 1896 was standard at the time of amalgamation.

Ex.-G.E. 4-6-0 No. 61552 is seen a long way from its native metals in this illustration of the neat and tidy station at Banchory on the Deeside line.

Greatest of Our Pioneers

The Story of Sir Alliott Verdon-Roe

By John W. R. Taylor

JUST over 46 years ago, on 8th June 1908, a young man named A. V. Roe trundled a strange-looking aeroplane out of a shed by the side of the old Brooklands race-track at Weybridge in Surrey, started its engine and clambered into the pilot's seat. He had done the same thing many times before; but this was different.

As he taxied along the concrete track he suddenly felt the machine lift into the air—not just the front wheels as in the past, but all four. He was flying for the first time, and in his own words, "Those few seconds of life gave me a most exhilarated feeling of triumph and conquest, which more than repaid me for all my previous trials and disappointments."*

He had had more than his share of both; but perhaps the biggest disappointment was yet to come, for 20 years later, when a Committee of the Royal Aero Club met to decide officially who was the first British airman to fly in this country, they announced that Roe's 1908 "hops" were not long enough to count as sustained and controlled flights. The title of British pilot No. 1 was bestowed instead upon another fine pioneer pilot, Lord Brabazon of Tara, who, as J. T. C. Moore-Brabazon, flew nearly 500 yards in his French-built Voisin biplane at the Isle of Sheppey in May of the following year.

Titles and honours did not mean very much back in 1908, which is why so few of the pioneers had their flights officially observed. In any case, it would have been a tedious life for the "observers", because would-be aviators were building and testing aeroplanes day after day, week after week, in America, France and Britain, yet in all the world there were less than ten men who could claim to have flown even once.

Sir Alliott Verdon-Roe, after unveiling at Brooklands the plaque commemorating his pioneer experiments there in 1908. Photograph by courtesy of Vickers-Armstrongs Ltd.

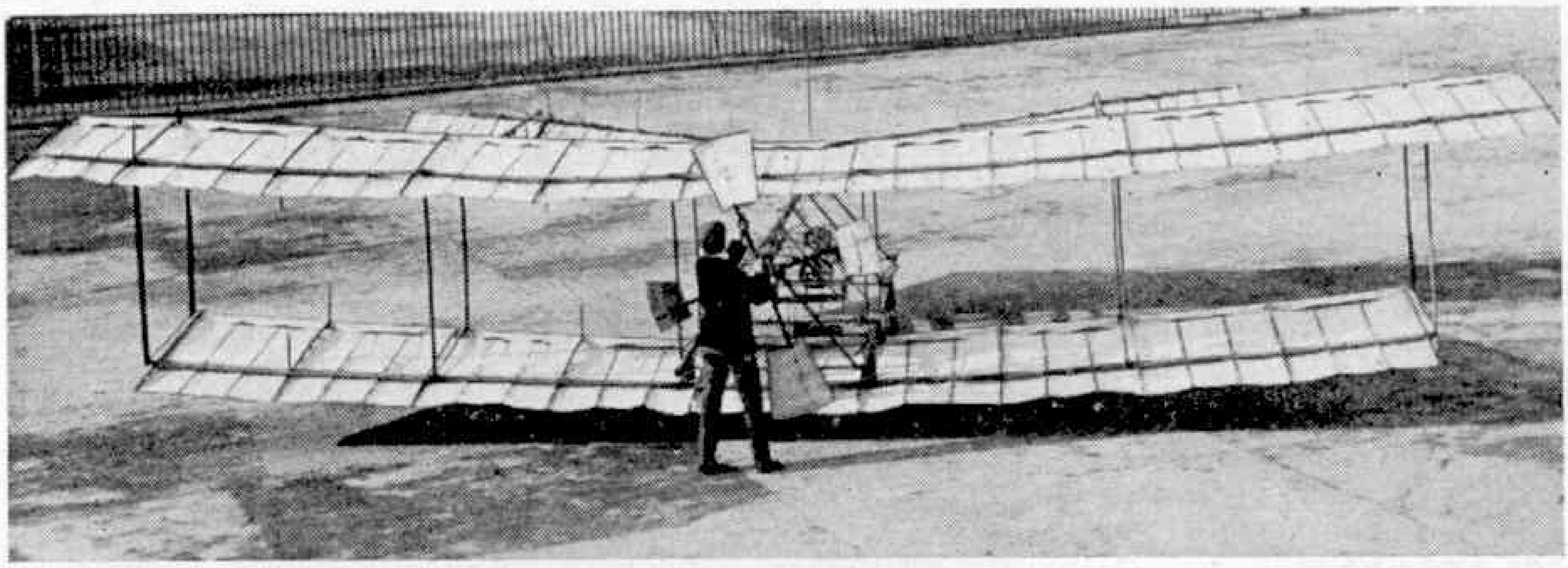
A. V. Roe's interest in flying started when, during voyages to and from South Africa as a marine engineer on the S.S. *Inchanga*, he used to watch albatrosses gliding over the ship with motionless wings. He built a wooden model of an albatross, but it would not fly, and all he got for his trouble was ridicule from some of the crew.

Undeterred, he started making model aeroplanes by the dozen—monoplanes, biplanes, triplanes, multiplanes; some tail first, others with their tails at the rear—and eventually he built some that would glide properly. He tested them at home between voyages by throwing them from his bedroom window.

As it happened, the house next door was a nursing home where slightly mental patients were accepted at times, and he was told some years later that one of these patients said to the matron "I'm sure this is a lunatic asylum like the next house, where a patient throws things out of the window all day long."

Towards the end of 1903, Roe—who was then 26—heard about the flying activities

*From *The World of Wings and Things*, by Sir Alliott Verdon-Roe (Hurst and Blackett).



The 1908 Roe biplane at Brooklands.

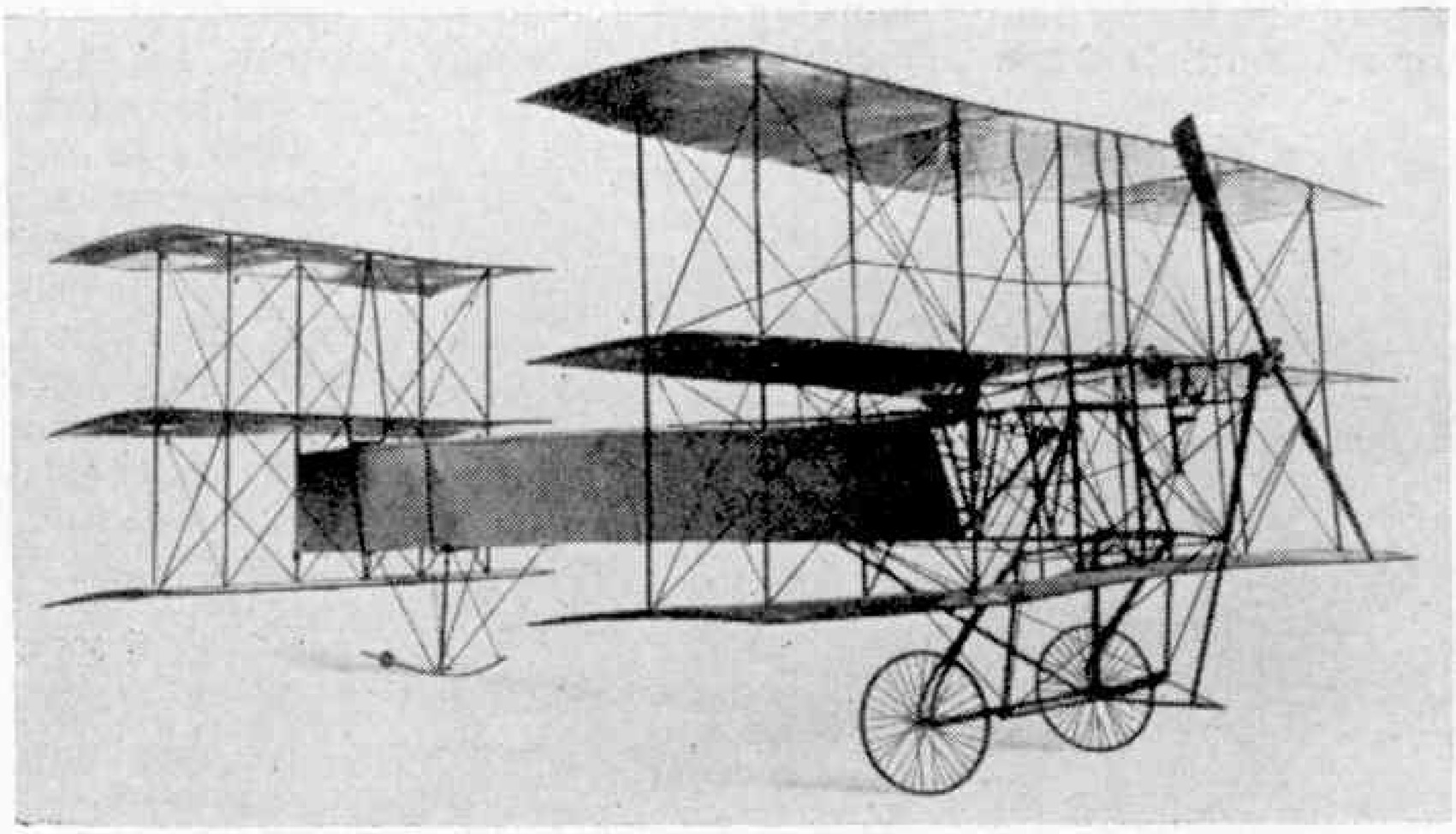
of Wilbur and Orville Wright in America. So he wrote and told them about his own experiments and received a very nice reply. A few weeks later, he was one of the few people in Britain who really believed that they had flown in their powered biplane at Kitty Hawk on 17th December.

Three years later, when the Wrights were still the only successful pilots in the world, he decided once and for all that he wanted to devote all his time to aviation. So he applied for the job of Secretary to the Aero Club, and got it, despite the fact that he knew nothing of the duties of a secretary and was interested only in heavier-than-air flight, whereas the Aero Club was concerned at that time solely with ballooning.

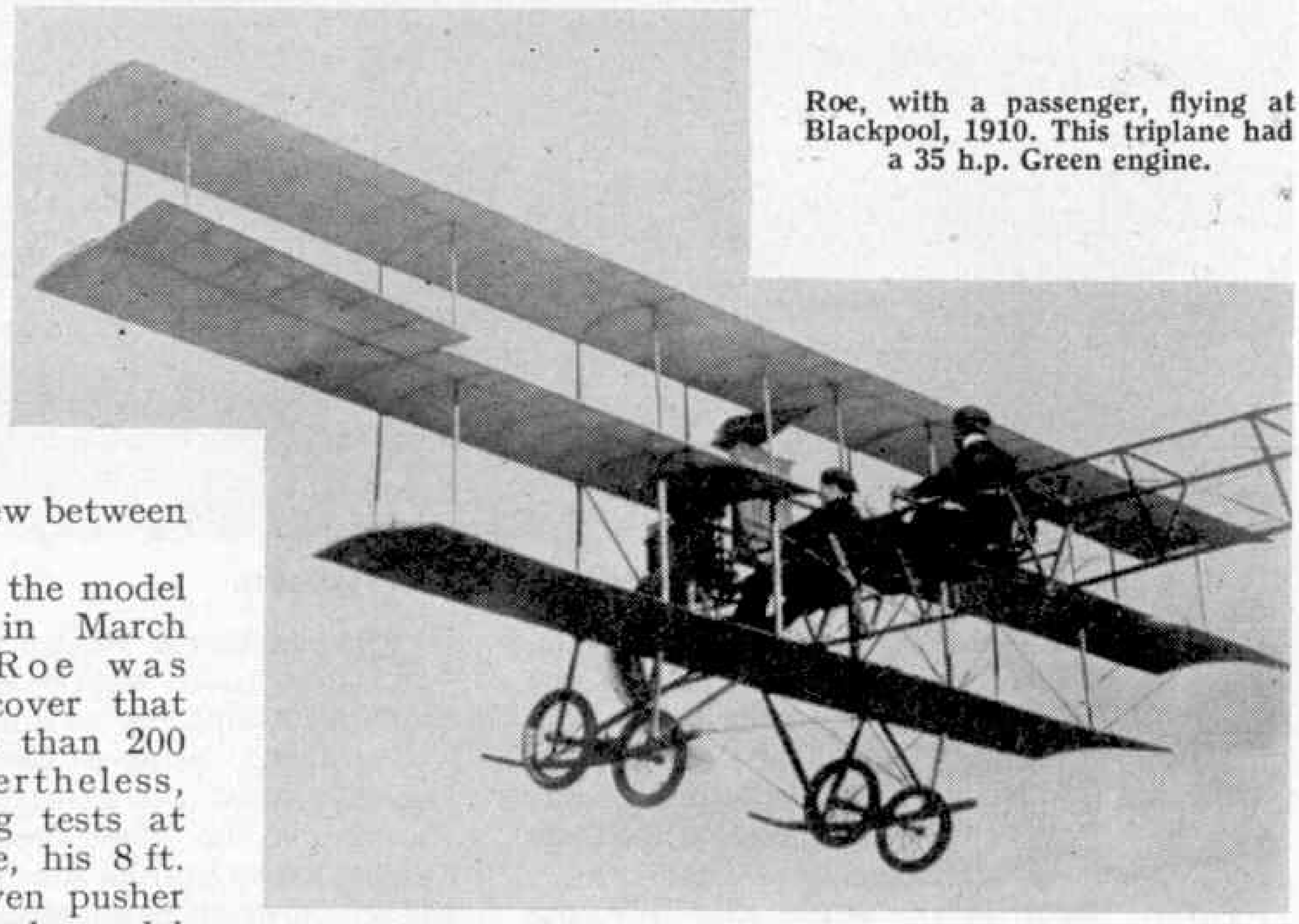
He worked at it for a month or so without pay, as he had not yet been officially appointed. But meanwhile, he had written a letter to *The Times* in which he expressed his belief that, if serious experiments were started, it would be quite possible to have a man-carrying aircraft flying in Britain by the Summer of that year. It was published in the Engineering Supplement of *The Times*, together with the Editor's comments that: "It is not to be supposed that we can in any way adopt the writer's estimate of his undertaking, being of the opinion, indeed, that all attempts at artificial aviation on the basis he describes are not only dangerous to human life but foredoomed to failure from an engineering standpoint."

Nevertheless, his letter was read by a Mr. Davidson who asked Roe if he would like to work as a draughtsman on a new helicopter that he had designed. It proved to be a fantastic affair with two 30 ft. "rotors", each made up of 120 blades, and driven by a couple of 20 h.p. steam engines. Needless to say, it did not work, and Roe found himself without a job.

Then came the turning point of his life. Convinced of the future of flying and determined that Britain should not be last in the field, Lord Northcliffe offered through his newspaper, the *Daily Mail*, a series of prizes ranging from £250 for models capable of mechanical flight to £1,000 for the first airman to fly the English Channel and £10,000 for the first flight between London and Manchester within 24 hours.



The Roe triplane, here shown without engine, in which A. V. Roe became the first British pilot to fly in an all-British aeroplane.



Roe, with a passenger, flying at Blackpool, 1910. This triplane had a 35 h.p. Green engine.

By then, the Wrights had flown up to 24 miles in America; but this did not prevent one of Northcliffe's rivals writing sarcastically that he would give ten *million* pounds to anyone who flew between the two cities!

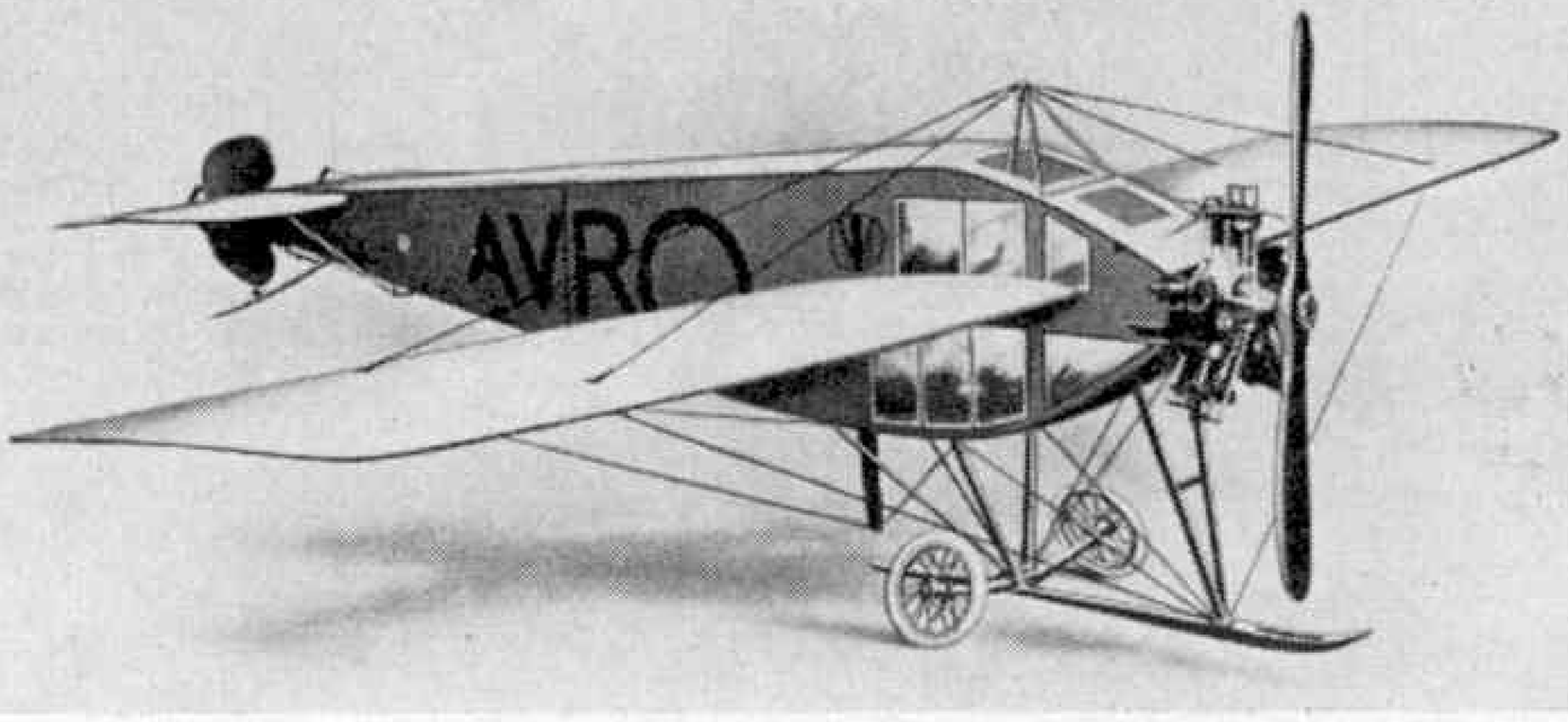
Entry lists for the model contest closed in March 1907, when Roe was horrified to discover that there were more than 200 entrants. Nevertheless, during the flying tests at Alexandra Palace, his 8 ft. span, rubber-driven pusher biplane was the only model able to cover the qualifying distance of 100 ft., and so he found himself better off by £75, which he decided to spend on building a full-size version of his winning model.

The authorities at Brooklands were offering a prize of £2,500 for the first aviator who flew round their track before the end of 1907; so he decided that there was the place to build his aeroplane. But he soon found that the fact that they had offered a prize did not mean the people at Brooklands were aviation enthusiasts. He was told to put up his shed near the finishing straight; then, when the motor racing season started, was ordered to move it somewhere else and to paint it green.

He was not allowed to sleep in his shed, although it took him two hours to get his aircraft out of it and on to the track, and he had to be off the track again before the first car arrived. He got over this by saying "Good-night" to the gate-keeper, walking out and then climbing back over the fence. Finally, he was allowed to stay on condition that his shed could be used as an extra refreshment room during races. Despite all the hindrances, his aeroplane was completed in due course.

It had a span of 36 ft., was 20 ft. long and weighed only 450 lb., complete with pilot. But it would still not lift itself off the ground with a J.A.P. engine of only 9 h.p. So Roe decided to live on five shillings worth of food a week and, with the money he saved, hired a 24 h.p. Antoinette engine from France. While waiting for it to arrive, he made several hops in his aircraft, towed behind motor cars, to prove the efficiency of his controls—the first in which banking and "climb-dive" operations were combined in a single control, as in a modern joystick.

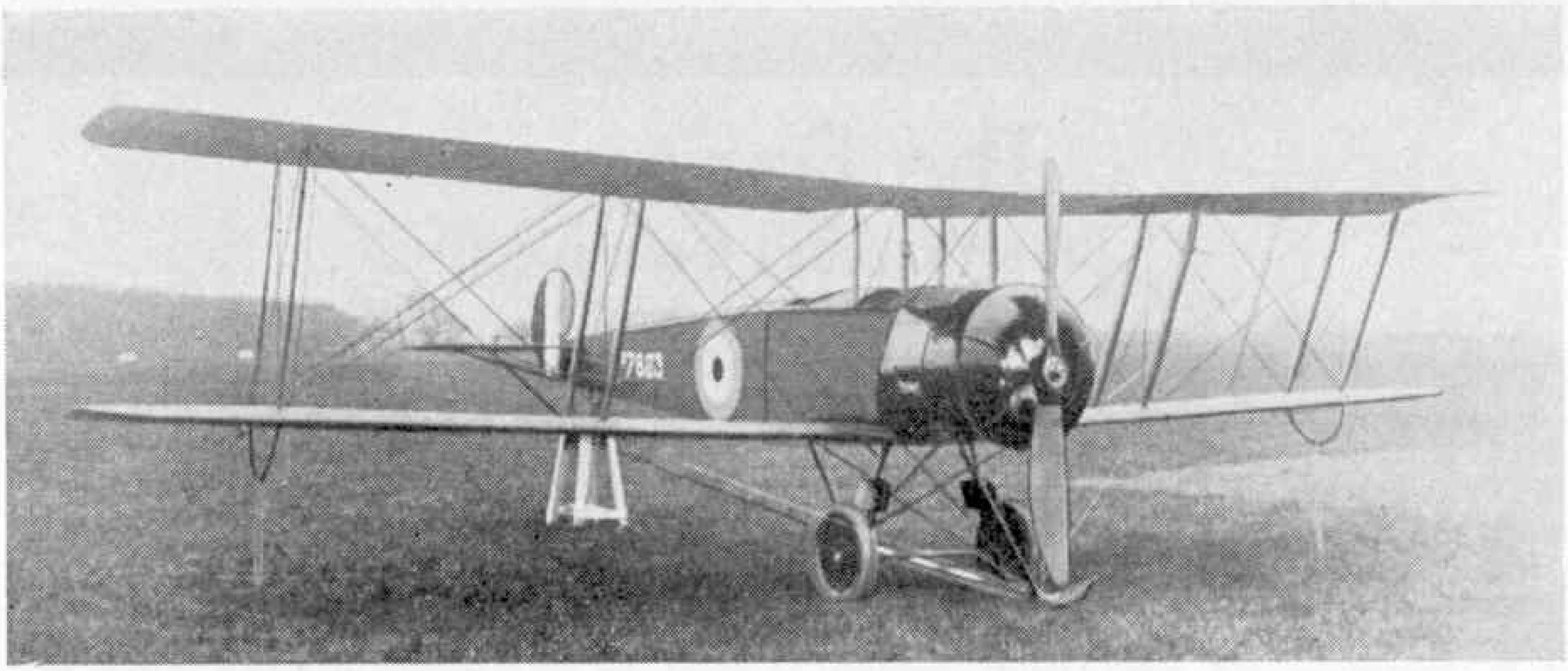
Then, as we have seen, came the great day when he flew for the first time. But, soon afterwards, he had to leave Brooklands and, no longer able to



Avro monoplane, 1912 type, the world's first cabin monoplane.

afford to hire the Antoinette engine, had to try and build a new aeroplane that would fly on only 9 h.p.

The result was an amazing little 20 ft. span triplane with wings that were covered with brown waterproof paper to save cost and weight. In this aircraft, at Lea Marshes, on 13th July, 1909, Roe finally made sure of his place in aviation history by becoming the first British pilot to fly in an all-British aeroplane, and the little machine can still be seen in the National Aeronautical Collection at South Kensington.



The famous Avro 504K biplane, a type that gave wonderful service as a training aircraft and in which King George VI learnt to fly.

A. V. Roe had not come to the end of his trials and disappointments. Indeed, he was about to be prosecuted as a danger to the public when Bleriot flew the Channel and, in the sudden burst of enthusiasm for flying, the case was dropped. A year later, whilst on his way to compete in a flying meeting at Blackpool, both of his new aircraft were burned out when sparks from the railway engine set fire to the tarpaulin covers of their trucks. Undaunted, he built another in five days, and collected £75 prize money with it.

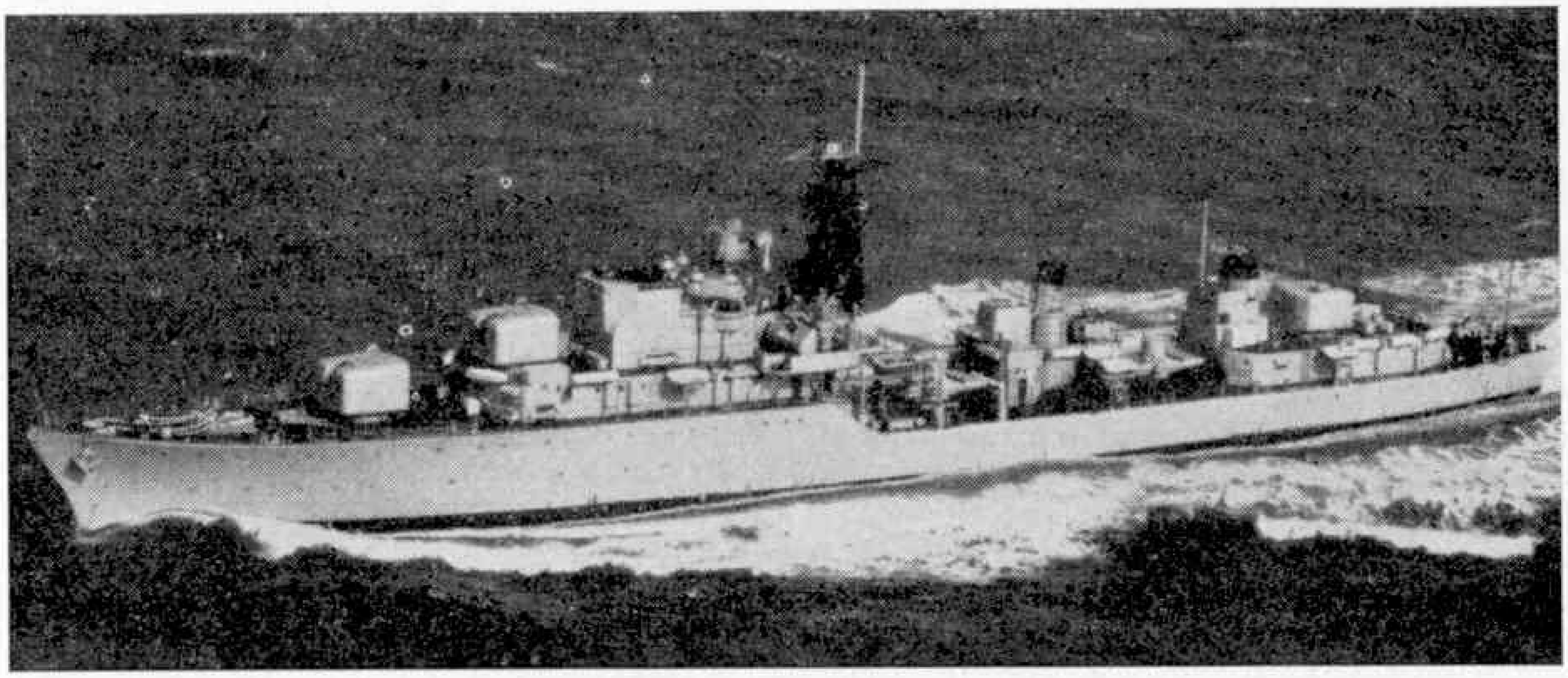
But from then on, things began to improve. He was able to return to Brooklands, the firm of A. V. Roe Ltd. was formed with the help of his brother, and a start was made on the wonderful series of Avro aeroplanes that have included the first British seaplane; the world's first cabin monoplane; the wonderful old Avro 504K on which thousands of people learned to fly, including King George VI, and even more made their first joy-ride at air circuses; right up to the Anson, Lancaster and the Vulcan of today.

A. V. Roe sold his interest in the company in 1928 and took over control of the old-established firm of S. E. Saunders of Cowes, Isle of Wight, which became Saunders-Roe Ltd. Today, as Sir Alliott Verdon-Roe, he is still President of this company and no mere "sleeping partner", as he showed when he flew in the lovely Saunders-Roe Princess flying boat during one of her demonstrations at last year's S.B.A.C. Display.

Our story is brought up-to-date, very fittingly, by a ceremony which took place on 28th June this year on the very spot where the young "A.V." made his first flight 46 years ago. The present tenants of Brooklands — Vickers-Armstrongs' Aircraft Division — have erected there a plaque which records details of the 1907–8 experiments and adds "A. V. Roe thus became the first of the long line of famous pioneers and pilots of many nations who made air history on this flying field of Brooklands."

The plaque, which is mounted on a rough granite plinth, is illustrated on page 420, and it is interesting to note that the iron railings shown in the background are those which also appear in the upper photograph reproduced on page 421, which was taken in 1908.

This plaque was unveiled by "A.V." himself, and he must have chuckled at the thought that he was once thrown off the airfield that now pays him such well-deserved tribute.



The Darings

Britain's Latest Destroyers

By Desmond Wettern

THOUGH much has already been written about the Navy's new warships, little is known of the new Daring class destroyers when compared with our larger and more spectacular vessels, such as H.M.S. *Eagle* or H.M.S. *Vanguard*, ships whose names are household words. The press has described the Daring class as super-destroyers or even light cruisers; but apart from mentioning their tonnage no other details have been given. It is common to find some people, even in the Navy, thinking that they mount 6 in. guns and also confusing them with the earlier Weapon and Battle classes.

Certain details concerning the Darings of course are still secret, but it would not perhaps be out of place to say that they are probably the most comprehensive light warships ever built for the Royal Navy. They mount six 4.5 in. H.A./L.A., or High angle/Low angle guns, six 40 mm. Bofors anti-aircraft guns, ten 21 in. torpedo tubes and one triple Squid or anti-submarine mortar. The complement is at present 250.

Recently, when two of the latest American destroyers were at Gibraltar, it was possible to compare them with the Daring class. Though the latter were large, the American vessels boasted a superior armament of six 5 in. guns, and appeared to have a greater overall length, but whether the 5 in. weapons have the same hitting power at long ranges is open to doubt. One noticeable feature was that the Darings carried much less top hamper and looked better seaboats. The American's gave the impression of being stiffer and having an inclination to roll badly. They had few anti-submarine weapons, apart from depth charges.

At the head of the page is a picture of H.M.S. "Daring," the first of the class of destroyers named after her. The tonnage of the class is 2,610, and the vessels composing it are described as probably the most comprehensive light warships ever built.

The *Darings*, though large for destroyers, definitely cannot be called cruisers. They are not even comparable with the Dutch Tromp and Jacob van Heemskerck or the French Chateaurenault class light cruisers, but their size does allow them to be fitted with superior equipment to that mounted in the wartime Utility type destroyers. They have numerous electrical fittings such as Staag anti-aircraft mountings, which are usually not to be found in earlier ships. The messdecks are more elaborate and comfortable, with built-in lockers and other small comforts. The main telephone exchange is much more like that found in a large warship than in a destroyer. There is a highly centralised gunnery control and direction system, which reduces human errors and maintains minute accuracy and high speed.

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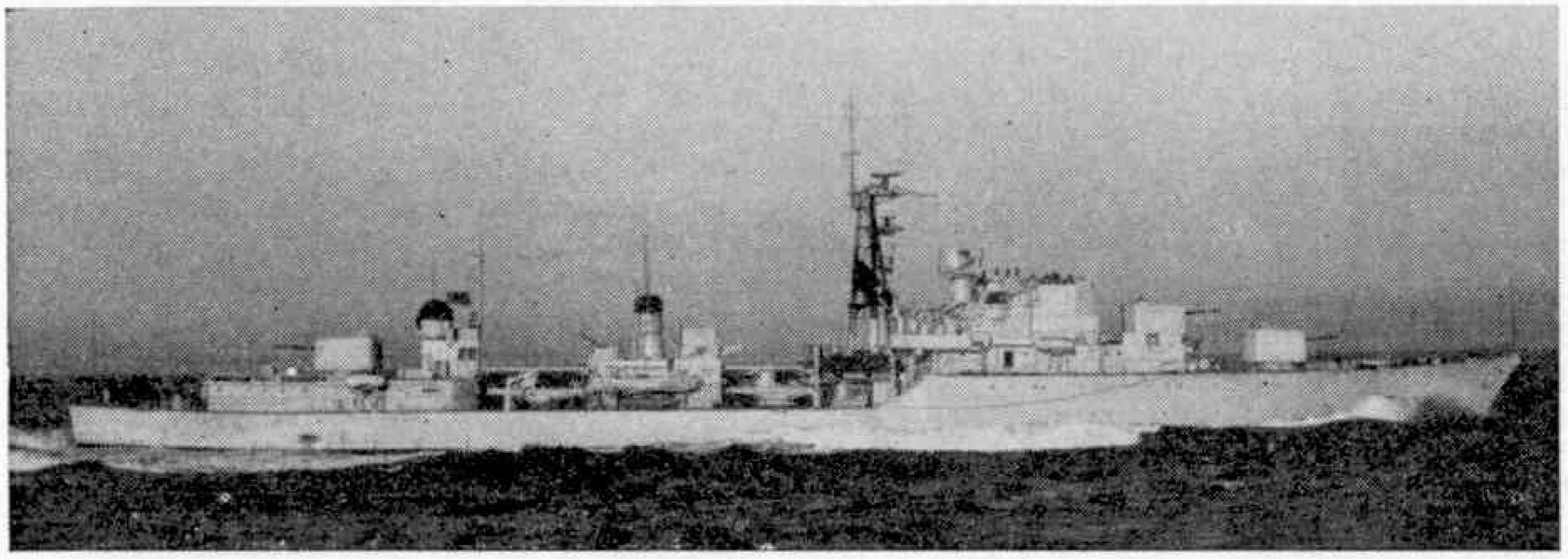


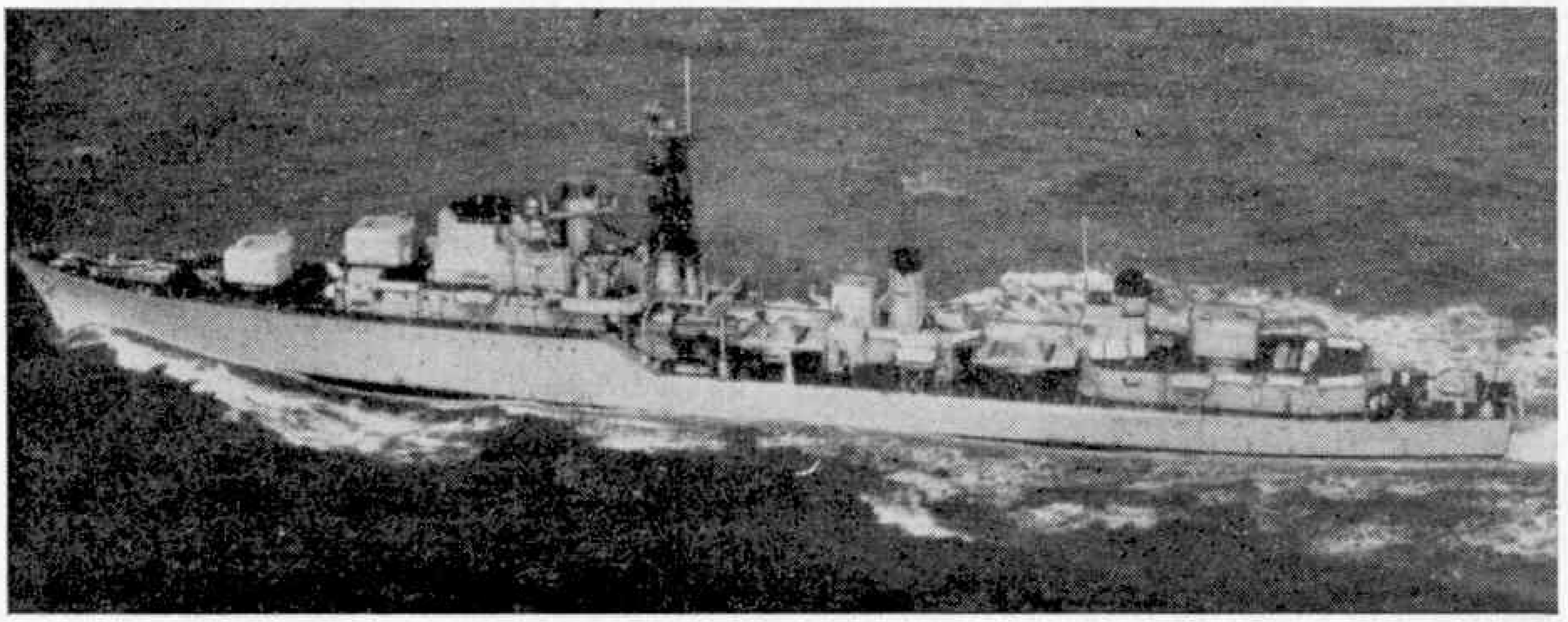
The main armament is particularly interesting, as it can be controlled in three ways. The usual method of remote control of the guns is effected by the main director, the guns simply following and obeying the director; the gun crews only have to do the actual loading. The rate of fire is high, while maximum elevation is greater than in many other destroyers. If the main director fails, or is put out of action, the gun trainers and layers take over. If they are incapacitated, the turret officer observing from his window at the top of the turret can take charge.

The six 40 mm. anti-aircraft guns are of the new air-cooled type, and their rate of fire and speed of training make them singularly deadly against fast, low-flying aircraft. Little can be said at present about the torpedo armament.

There have been many criticisms of the funnel arrangements in the Daring class, but the reasons for this arrangement are twofold. First, as there are two boiler rooms there must be two separate uptakes. Secondly, the fore-funnel in its position "inside" the foremast occupies much less deck space and is also of light construction, owing to the support received from the mast. In the event of one boiler room being put out of action, the other boiler room can be connected up to both engines. In this way these ships have a marked advantage over the Battle and Utility types, which have only one boiler room, making them liable to be completely disabled by one hit.

On this page are two more views of H.M.S. "Daring." The forward funnel is within the lattice of the foremast. The ships of this class have six 4.5 in. guns, six anti-aircraft guns, ten 21 in. torpedo tubes and an anti-submarine mortar. The illustrations to this article are from Admiralty photographs, Crown Copyright Reserved.

Apparently the Daring class is designed primarily for anti-aircraft escort work. Their anti-submarine armament is limited and takes second place. The 4.5 in. guns can be used most effectively against aircraft on account of their high elevation and rate of fire. While anti-aircraft vessels such as the Bay and modified Black Swan class frigates are very suitable for convoy anti-aircraft escorts, they have not the speed required for working with the (*Continued on page 458*)



Air News

By John W. R. Taylor

One of British European Airways' three Bristol 171 helicopters at London's new rotor station.

Helicopters into London

June of this year will go down in aviation history as one of the most important months in British helicopter operations. On 15th June, British European Airways opened the first passenger service by a helicopter designed and built in Britain, when one of their Bristol 171s inaugurated a new regular service between Eastleigh Airport, Southampton, and London and Northolt Airports.

Meanwhile, helicopter operators and enthusiasts had won a long battle with the Ministry of Transport and Civil Aviation, with the result that since 17th June anybody can fly a helicopter into central London, provided 24 hours notice is given to ensure that the necessary landing facilities can be manned.

London's first rotor station is a circular patch of grass marking the site of the Dome of Discovery on the Festival of Britain South Bank site, only a hundred yards from Waterloo Air Terminal. Helicopters using it must follow the course of the River Thames and fly not lower than 500 ft. over the water or 1,000 ft. over buildings. But it is a start, and next March B.E.A. plan to open a regular helicopter service from the rotor station to London Airport, using two Westland-Sikorsky S-55s, equipped with pontoons to permit emergency "landings" on the Thames, if necessary. Proving flights will begin in November.

The 1,000th Franco-British Jet

More than 1,000 British turbojets have been built under licence by the French Hispano Suiza company. The 1,000th engine, delivered this summer, was a Rolls-Royce Nene, which powers three important French fighter aircraft—the Mistral (a version of the Vampire), the Ouragan and early prototypes of the swept wing Mystère.

Hispano have also developed the Rolls-Royce Tay, which powered a Mystère when it made the first faster-than-sound flight by a French aircraft. The developed version, named the Verdon, gives 7,000 lb. thrust and is scheduled for use in several of the fastest French military aircraft. It will soon be joined on the production line by the Rolls-Royce Avon, which will power the latest and fastest Mystère 4B.

Radar gives Storm Warning

Pan American World Airways have installed a new £9,000 radar set, known as the Bendix RDR-1, in one of their DC-6B air liners. Lighter than military "cloud and collision warning" sets, it will enable the pilot to "see" the weather 150 miles ahead of his 'plane, through a radar scope on the flight deck, so that he can find holes in storm cloud formations far ahead and give passengers a smoother, more comfortable journey.

Besides giving a smoother trip, it will also lead to faster flights because, when turbulent weather is encountered at present, pilots have to reduce speed while going through it, or make a long detour round it.

The radar will be given a thorough three-months testing in every part of the world, from the dust storms of the Middle East, to the rain storms of South America and the thunder clouds of North America and Europe.

Landplanes for T.E.A.L.

Another flying boat service has come to an end with the introduction of landplanes on Tasman Empire Airways' service between Sydney, Australia, and Auckland, New Zealand. The inaugural flight was made by a DC-6 airliner named *Aotearoa III*, which in the Maori tongue means "long white cloud" and has been carried by the flagship of T.E.A.L.'s fleet since the airline began operations with Empire flying boats in 1939. Tasman's other two DC-6s are named *Arawhata* (the bridge) and *Arahia* (the guided one).

V.T.O. Flight Tests

The Convair XFY-1 vertical take-off fighter, described in last month's *M.M.*, has completed a number of tethered flight tests inside a hangar at Moffett Field, California, during which it rose to a height of 60 ft. under its own power and made successful tail-first landings. The cables by which it was tethered to the floor and roof were loose during the flights, showing that it was under complete control by the pilot.

Atomic Bomb Balloon

Latest idea from America is to use balloons to carry atomic bombs. The first experiments were made last spring, when an unmanned balloon, launched from Vernalis, California, rose to a predetermined height of 37,000 ft. and flew 6,250 miles to Spain, where it was recovered 52 hrs. later. It was tracked by radio and radar throughout its long flight, which could have been ended at any time, giving a reasonable degree of "bombing" accuracy. The idea is not new, as the Austrians attacked Venice with pilotless bomb-carrying balloons in 1849!

* * * *

Convair have received a contract for 20 TF-102 trainer versions of their F-102 delta fighter.

Above: The Auster Mk.9 Air Observation Post reconnaissance aircraft. Photograph by courtesy of Auster Aircraft Ltd.

Below: Latest Sikorsky helicopter, the XHSS-1, in production for the U.S. Navy for anti-submarine duties.

The Latest Auster

Since 1940 Auster Aircraft have built all the Air Observation Post reconnaissance and artillery "spotting" aircraft used by the British Army. All the experience gained in front-line service throughout World War II and the Korean War has now gone into the design of the two-three seat Auster A.O.P. Mk.9, illustrated above.

Although similar in appearance to earlier Austers, except for its square tail and single wing struts, the A.O.P.9 is a completely new design. Different methods of construction have been used, including "Redux" metal-to-metal bonding, plastic fairings, and floors and seats made of "Dufaylite", which consists of honeycomb paper core sandwiched between two light alloy skins. The extra power of its 180 h.p. Blackburn Bombardier 203 engine, combined with greater wing area and bigger flaps with "drooping" ailerons, enables it to climb out of even smaller spaces than its predecessors. A roomier cabin makes it suitable also for liaison, casualty evacuation, supply, mail dropping, aerial photography and other jobs.

The Auster A.O.P. Mk.9 has a wing span of 36 ft. 5 in., is 23 ft. 8½ in. long, has a loaded weight of 2,100 lb., top speed of 127 m.p.h. and range of 242 miles.

Photographing Mars

Charles Dolfuss, the famous French balloonist, and his son Audoin, who is an astronomer at Meudon Observatory, ascended to a height of 22,750 ft. in a free balloon on 31st May, to observe the planet Mars. It was the first time that a telescope with a diameter of 11 in. had been taken in a balloon basket, and also the first time that an ascent had been made to such an altitude at night. They were airborne for four hours.

New Wind Tunnels

Two new wind tunnels have been added to de Havilland's research equipment at Hatfield, both having been built and run within a year. One is a high-speed tunnel, driven by three Ghost turbojets and intended for tests at speeds between about 600 and 1,200 m.p.h. The other is a low-speed tunnel, driven by a 500 h.p. electric motor, which gives an air speed of up to 170 m.p.h. in the 9×7 ft. working section. It will be particularly valuable for testing and improving the behaviour and controllability of high-speed aircraft during landing and slow flying.

Sikorsky's Latest Helicopter

The Sikorsky XHSS-1 (S-58), illustrated below, shows the new fashion in helicopter design, in which a proper rear fuselage is used instead of the usual stalky tail-boom carrying the tail rotor.

A larger aircraft, the S-55, powered by a 1,425 h.p. Wright R-1820 engine, carries "dunking sonar" radar which includes a microphone that is lowered into the water to listen for submarines and small guided rockets.

English Club Cricket

By Peter Lewis

IN cricket it is the more publicised events that appeal to the average follower of this great sport. Test trials and Test Matches, the County Championship, the annual contest between Gentlemen and Players and the University Match are events that become the main topics of discussion.

Yet such contests are by no means the foundation of the game. The backbone of English cricket is surely the village green and club matches, for these provide the nurseries that turn out so many first-class cricketers. Harold Larwood, the Notts and England fast bowler, was discovered while playing on a rough pitch adjacent to the coal mine where he was then employed. Many other famous cricketers who have gained county or England caps first learned the game on a village green or club ground.

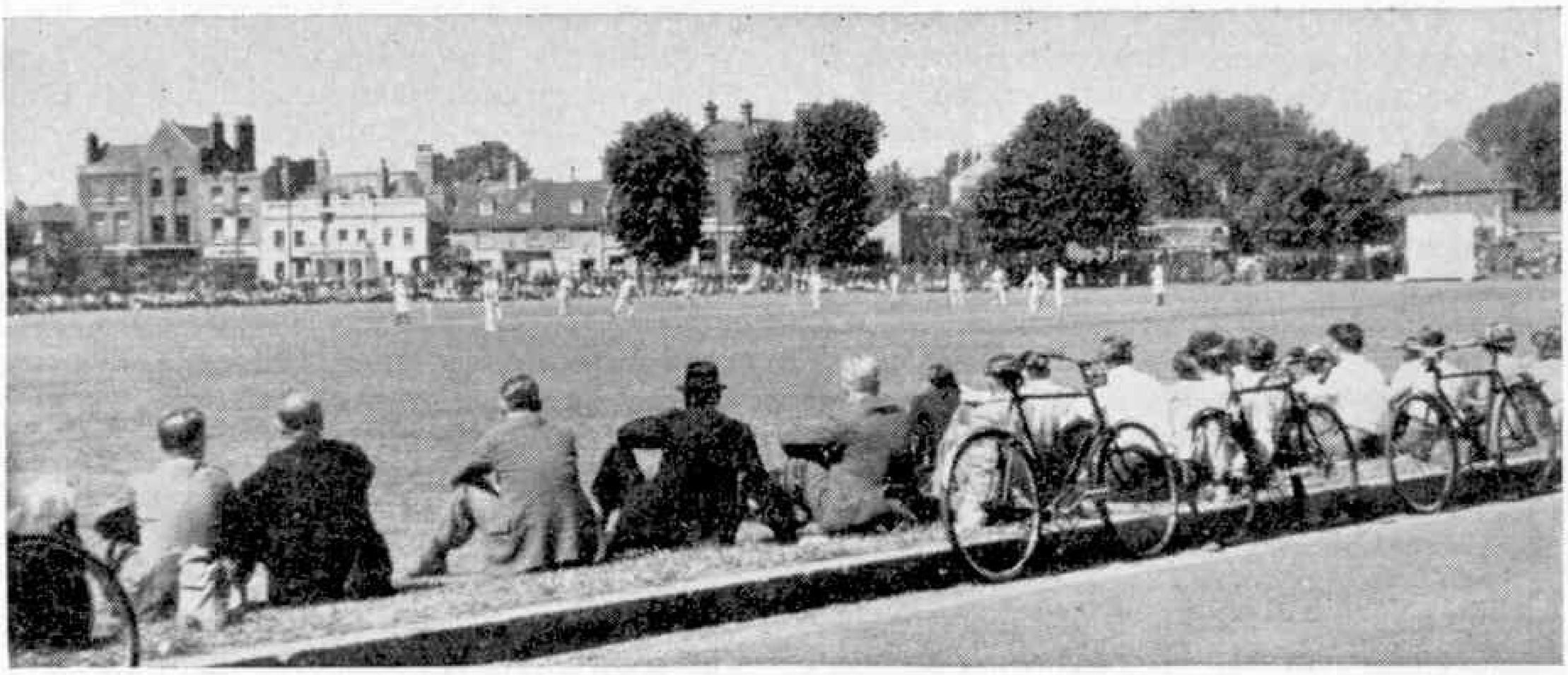
No true cricketer can fail to be captivated by the charm of the game as played on village greens. It may be that players are unconcerned with such niceties as covering wickets during rainy periods, and with the lack of sight screens. Not all wear white flannels, or even cricket boots, but their enthusiasm for cricket equals that of Test and county players.

Hambledon, an old world village in Hampshire, is generally accepted as being the "cradle" of cricket, especially if one has read the poetry of John Nyren. His father, Richard Nyren, was the main stalwart of the Hambledon Club, which came into being about 1750. Other clubs doubtless were in existence before Hambledon, but it was Nyren's team that seems to have really awakened enthusiasm for cricket in England. It is believed that Richard Nyren was mine host at the famous Bat and Ball Inn, which still stands today on Broadhalfpenny Down, where he used to captain Hambledon.

There is evidence that cricket existed in the early Middle Ages. Edward III tried to suppress the game when he found that it was interfering with archery. Edward IV sentenced anyone found playing cricket to imprisonment for two years and a heavy fine, and in some cases decreed that the cricketer's gear be burnt. On the other hand it is recorded that Oliver Cromwell was a keen supporter of cricket.

Above is the sign of the Bat and Ball Inn, on Broadhalfpenny Down at Hambledon, in Hampshire. On the right an 18th century game of cricket is seen in progress on the Artillery Ground, London.

Apart from these instances, before the time of Nyren, cricket as played today had its birthplace at Hambledon, but unfortunately most early records were destroyed by fire at the Marylebone Cricket Club over a hundred and thirty years ago. But we do know that Richard Nyren was one of the first members of the



Mitcham's famous Cricket Green, with a club match in progress, is seen in the picture at the head of the page.

Hambledon Club and that he captained a team that was almost unbeatable. The life of the Club, the membership of which included such well-known players as Brett, Small, Hogsflesh, Buck, Aburrow and Tom Taylor, came to an end in 1791. Over a hundred years later, in 1908, a memorial erected near the Bat and Ball Inn was unveiled during a game in which many famous cricketers of the day took part, including G. L. Jessop, Albert Trott and C. B. Fry.

It is impossible to dwell upon the history or fortune of all the clubs that succeeded Hambledon. The membership of the Club Cricket Conference today numbers over two thousand, including teams from Land's End to John O'Groats. The mother club is that most exclusive cricket organisation, with its headquarters at Lord's—the Marylebone Cricket Club. No ground is held in higher esteem than Lord's, and though the ambition of every cricketer is to bat on this famous wicket, comparatively few have done so.

Cricket has been played on the Sevenoaks Vine ground since 1734, and members of the Sackville family, which then held the dukedom of Dorset, were among the earliest players. East Molesey also played about the same time, and there are many clubs in existence that fielded teams a hundred years ago. They include the Honourable Artillery Company, Thames Ditton, Twickenham, North Devon and High Wycombe.

The members of High Wycombe were exceptional for their zeal. Slackers failing to attend practice on Mondays and Thursdays were fined threepence, and those not giving two days' notice of their inability to play in a match for which they had been selected had to pay one shilling to the club funds—quite a heavy fine in those days.

Another famous club, the Band of Brothers, was founded in 1857 by the three Leigh-Pemberton brothers, who were at that time officers in the East Kent Yeomanry.

The rules of the Club cannot fail to raise a smile. Here they are. 1. The annual subscription shall be £0, payable in advance. 2. The entrance money shall be £0, payable in advance. 3. The wives and daughters of Brothers shall themselves be Brothers. 4. Sisters of Brothers are admissible as Brothers on undertaking to marry any Brother on demand. 5. Loss of temper shall be punished by immediate expulsion. 6. The only qualification demanded of a candidate is that he be a good fellow.

Many a Kent amateur owes his inclusion in the County eleven to the fostering of his interests by the Band of Brothers, and most counties have similar first-class clubs that frequently provide them with players, such as the Gloucestershire Gypsies, Somerset Stragglers, Sussex Martlets and Hampshire Hogs. In fact, there is scarcely a county that is not able to draw upon resident clubs for players when in need.

Any youngster, whether before or after leaving school, can readily join at little expense a cricket club almost anywhere in the British Isles. If he proves his ability, he may well be chosen to represent his county, and if he can avail himself of the facilities offered for winter practice and coaching at the many cricket schools now in existence, this prospect may greatly be enhanced.

There is insufficient space to mention all the personalities of club cricket, but perhaps the best known is L. W. Newman, of Alexandra Park, who has compiled more than 200 centuries. In 1935 he scored 4,138 runs, which still remains a world record for a cricket season.

Hampstead Cricket Club, one of the best known southern sides, has for years fielded strong elevens and, in the eighties, A. E. Stoddart and F. R. Spofforth—known as the "Demon"—were powers indeed. During the club's "Week" in 1887 the former scored no fewer than 900 runs in six innings. A near neighbour and rival for many years is the South Hampstead Club, until recently captained by a well-known club player, H. J. J. Malcolm, who has played for Middlesex. South Hampstead also owes a lot to the late Charles Pinkham, a triple Cambridge Blue, who led the eleven for many seasons between 1920 and 1935.

The Universities invariably field formidable teams in club cricket; the Harlequins and Authentics for Oxford, the Quidnuncs and Crusaders for Cambridge.

On the village green at Manaton, Dartmoor, with Hey Tor in the background, the home side play Babbacombe. The pitch, 1,000 feet above sea level, is of matting over a concrete strip, and is said to be the only one of its kind in England.

Most of the public Schools contribute their Old Boys' elevens to the club game.

Many famous clubs have no home ground, all their fixtures being played away, and are described as wandering sides. Perhaps the best known is the Free Foresters, whose original members—in the 1860s—all lived in the Forest of Arden district in Warwickshire. The extensive fixture list includes games with both University elevens and, like Incogniti, another noted wandering team, Free Foresters send touring sides to Holland and Denmark.

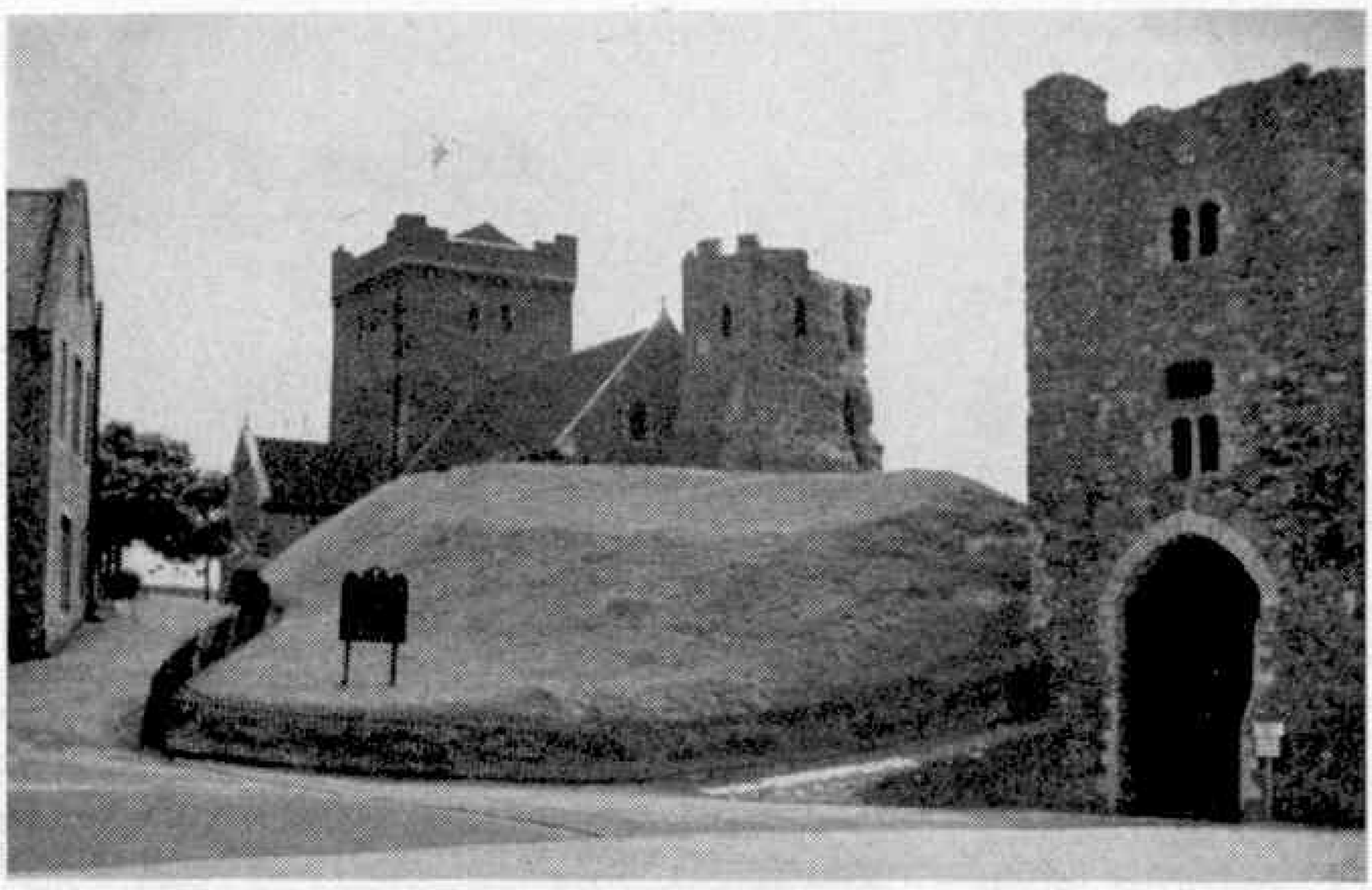
Another club without a home ground, the Wanderers, was founded by the late Stanley Coleman, who played for his club on no fewer than 2,500 occasions during 50 years. Yet one more club must be mentioned—I Zingari—with its amusing rule reading "The entrance fee shall be nothing, and the annual subscription shall not exceed the entrance."

A word about Northern club cricket. Many people are under the impression that most fixtures played are League games, but this is not so. There are just as many friendly club matches as competitive League encounters, and one of the best known northern clubs is the Manchester Cricket Club, which sponsors the cricket nurseries in Lancashire.

The Stage in club cricket is represented principally by the Thespids. Oscar Asche, Sir Frank Benson, H. B. Warner, Desmond Roberts, Sir Gerald du Maurier and Owen Nares were all prominent players in their time, and the late Sir Charles Aubrey Smith turned out frequently for M.C.C. and Sussex.

Most big business houses and the larger banks and insurance companies run cricket elevens, some of the banks putting as many as ten teams out each Saturday during the season. The banks have frequently produced county players, such as T. N. Pierce, who captained Essex and the Gentlemen, and at one time was a Test selector.

Many club cricketers attain the standard of play required in county games. But whatever the standard of play, cricket instils into us that priceless heritage of our manhood — sportsmanship; and every player, whether in a Test match or in a Saturday afternoon game on the village green, remembers that "the game is greater than the players of the game."



Dover Castle and Church, with the Pharos.

From Beacon to Lighthouse

By F. W. Robins, F.S.A.

THOUGH Trinity House, which looks after Britain's lighthouses, dates only from the sixteenth century A.D., lighthouses had a long history before that date. Several centuries before the Christian era the Greeks and Phœnicians maintained beacon lights to assist navigation, the light usually being provided by a wood fire. Homer alludes to the lighting of beacons on the shore to guide sailors in dangerous places, and Lesches, about 660 B.C., mentions what appears to have been a regularly maintained lighthouse at Sigeum, in the Troad, near the strait we now call the Dardanelles. It has been suggested that the Colossus of Rhodes, one of the Seven Wonders of the World, held beacons in its hands. The first lighthouse to have left traces until modern times, however, was the Pharos of Alexandria, built in the third century B.C., and destroyed by earthquake in 1303 A.D. It is said to have been possibly three or four hundred feet high, and its light was visible forty miles away.

Britain's first lighthouse was the Roman Pharos at Dover, still to be seen; others were at Folkestone, Flamborough and elsewhere on the east and west coasts of England and Wales, and a large foundation at Richborough is thought to have been a lighthouse base. The pharos or lighthouse at Rome's old port, Ostia, was on a square base which had a side one hundred and ninety feet long. Others were at Puzzuoli, Messina, Ravenna, Frejus—where there are remains—and at Boulogne, the last an octagonal structure about sixty-five feet in diameter at the base. This was still being used up to the sixteenth century, but fell into the sea in 1644. All the Roman lighthouses seem to have been lit by wood fires.

The Tour de Corduan, off the river Garonde, built at the beginning of the ninth century and believed to be the first post-Roman lighthouse, also was lit by a wood fire from its rebuilding in the fourteenth century until the eighteenth, when coal was substituted; it even had a revolving light. There was evidently a beacon fire acting as lighthouse at Aigues Mortes, on the Gulf of Lyons, in the fourteenth century, as a curious ordinance laid it down that any ship navigating within sight of the beacon must unload at the port or suffer confiscation; also, any slave, heretic or debtor who came within sight of the tower or its light became a free man, with freedom of worship and immunity from imprisonment.

Coastal beacons in this country were lit, through many centuries from mediæval times onwards, in time of danger or threatened invasion, and some of these seem to have been permanent installations acting at times as navigation lights. A paper read before the Hull Literary Club in 1886 lists seventy or more beacons existing along the East Yorkshire Coast in 1588, at the time of the Armada. Actually lighthouses, however, were few and generally consisted of lights maintained by the church as an act of benefaction.

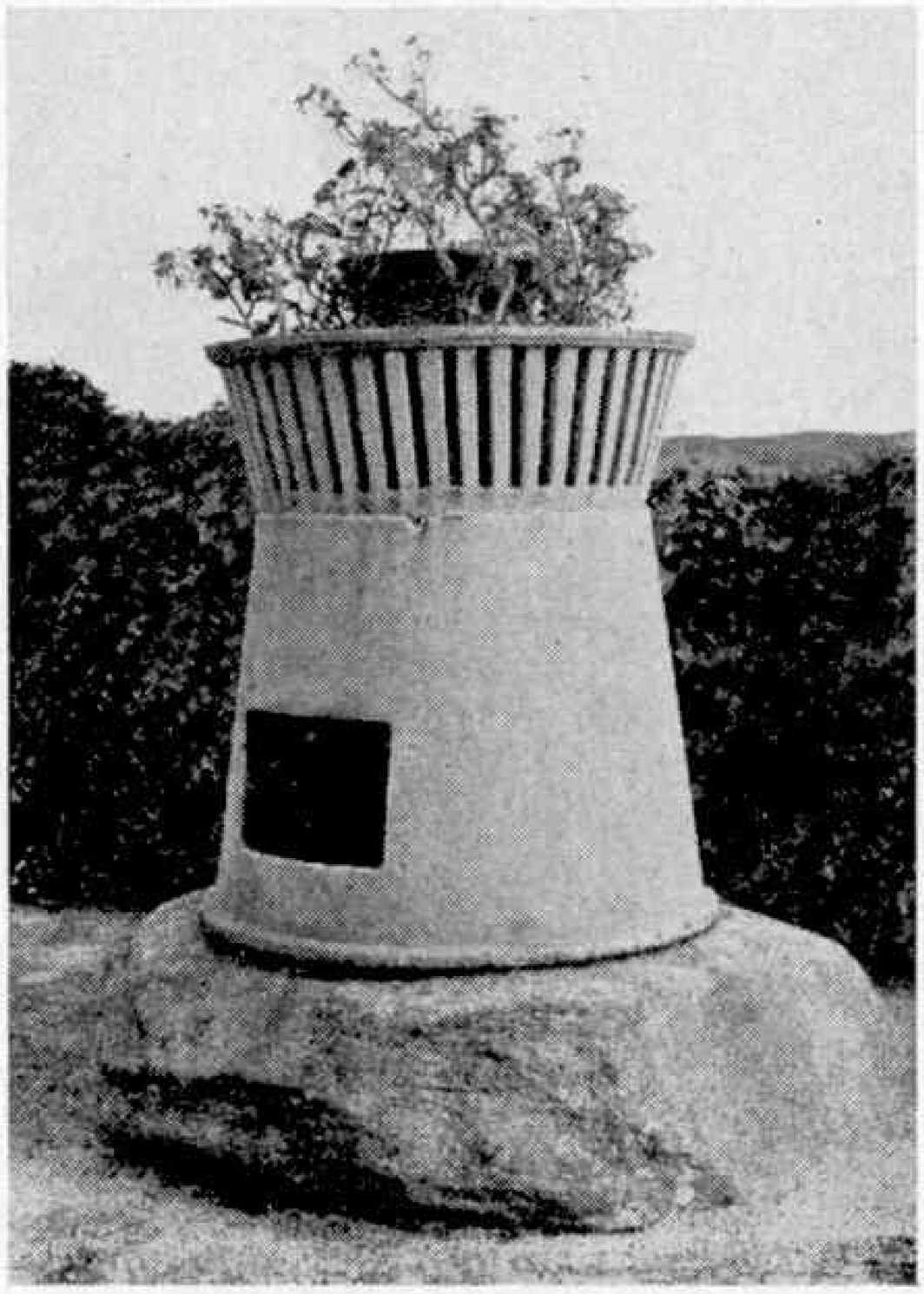
Where the secular authorities provided any lights at all, they were generally wood fires at first, but, from the fourteenth century onwards in this country, there was an increasing use of poles or standards having pitch pots or cressets at the top. There were difficulties with these, on

account of their liability to extinction by wind or rain and the fact that a strong wind from the sea would carry the flame in the opposite direction to that in which it best served its purpose—and at a time, of course, when it was most needed.

One of the great works in which the monastic orders were required to engage during the Middle Ages was the assistance of travellers, and this often took the form of providing a lighthouse or beacon, not merely for seafarers but sometimes for land travellers as well, where a wild tract of country had to be crossed. All Saints, York, has a lantern tower which originally carried a cresset to guide travellers, and there are other examples; the chapel on the bridge at St. Ives (Huntingdonshire) is said to have served as a river lighthouse.

St. Michael's "chair" at the corner of the tower on St. Michael's Mount, in Cornwall, was originally a container for a beacon shining out to sea, and other such beacons under ecclesiastical auspices included those at Boston Stump—the tower of St. Botolph's, Boston—Tynemouth Priory, Arundel church and Stepney church; a light at the south-west corner of Rye church was supplemented by one on the south-east corner of the Ypres tower, as twin guides to the harbour.

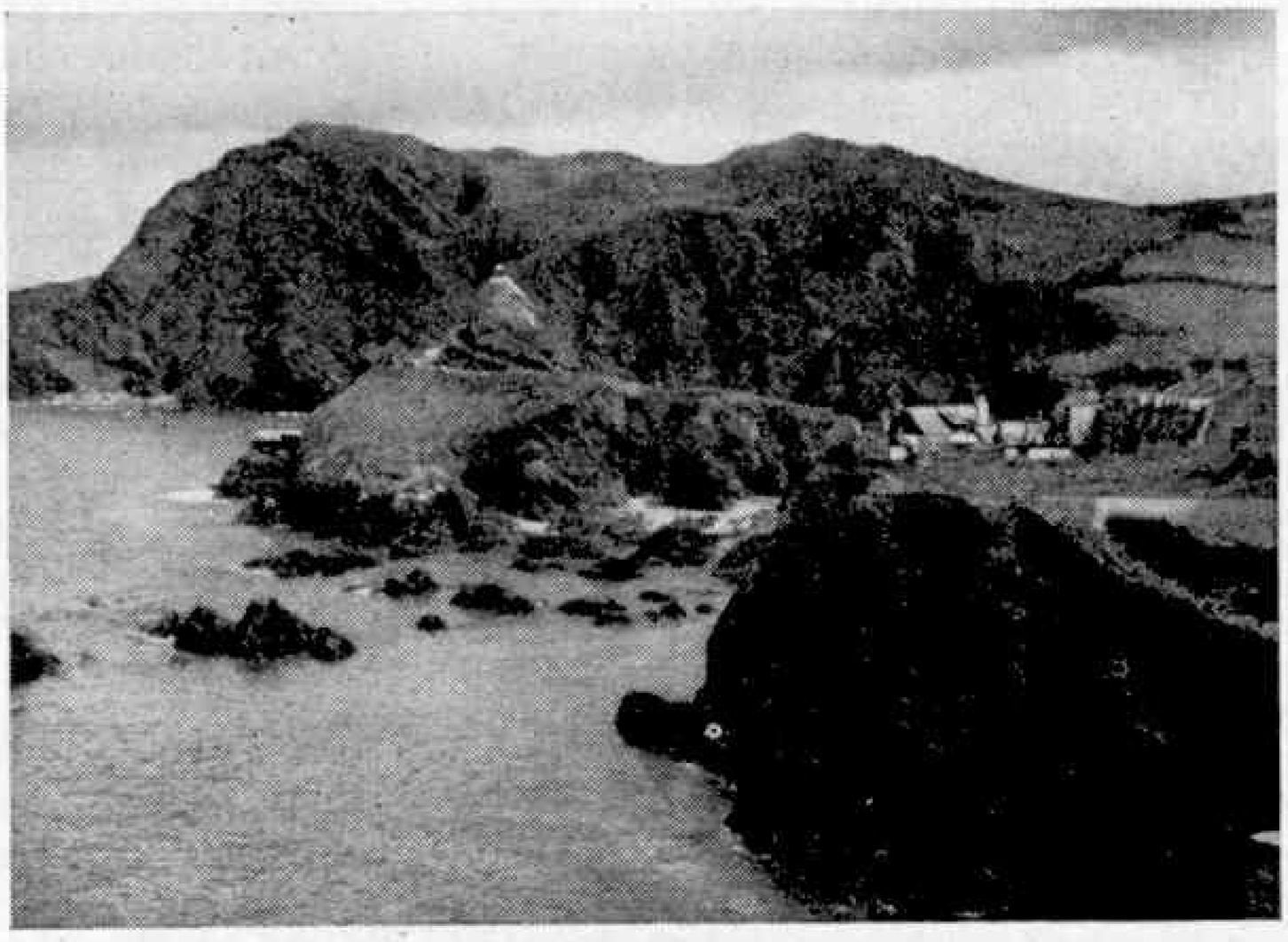
In many cases, however, the coastal lights were installed in chapels or anchorages (hermitages) built specially for the purpose. That, for instance, was the object of the little St. Nicholas chapel on the Lantern Hill at Ilfracombe, and there was once a similar chapel on St. Aldhelm's Head, Dorset. There, the light was provided either by



This cresset, now in Tresco Abbey Gardens, was formerly in St. Agnes Lighthouse, where its fires provided guidance to ships at sea.

candles or by oil lamps, as against the wood fires lit on the church towers. St. Nicholas, patron saint of sailors, shares the dedications with St. Catherine in most of these little "lighthouse" chapels, St. Catherine being especially associated with hill top or headland lights, such as the one at St. Catherine's Point, Isle of Wight, now a modern lighthouse but preceded by a fourteenth century tower carrying a beacon.

Where the lights were monastically maintained, the dissolution of the monasteries by Henry VIII in 1536–9 created a gap that was not repaired for some time afterwards. Such attempts as had been made during the Middle Ages and after the dissolution to provide "secular" lights were either by private owners or benefactors or by local guilds, and this haphazard system, if system it could be called, went on until coast lighting became a national affair.



St. Nicholas Chapel and Lantern Hill, Ilfracombe.

Naturally, where the light was a private enterprise to enable the owner to make a profit from the shipowners' dues, or where the benefactor was dead and maintenance nobody's business, the efficiency of the light was not always the first consideration, to say the least.

Wood fires were general in the seventeenth century, when the first attempts to establish a regular service were made. The first "regular" lighthouses are said to have been two at Caister, erected in 1600, but they were soon followed by one at Lowestoft in 1609 and another at Dungeness in 1618. It is understandable that attention was first given to the east coast, with the bulk of the sea-going traffic European or eastward and the Atlantic virtually an empty sea.

Trinity House was given power to erect lighthouses in 1617, but they were not then given a monopoly.

It seems hard to believe that the poor light of a candle had to suffice for a lighthouse. Apart from the use of candles in the mariners' chapels, Caister lighthouse, in 1600, had to depend upon a single candle or at most two, six to the pound. Two lights originally placed at the North Foreland in 1505 were candle-lit for nearly two centuries.

The Eddystone lighthouse built by the eccentric Winstanley, an amateur engineer, in 1696–1700, was the first to adopt candles on a large scale. After the destruction of his lighthouse by a tempest in 1703, another amateur, silk-mercer Rudyard, designed a wooden tower, ninety feet high, which was also lit by candles and was destroyed by fire fifty years later.

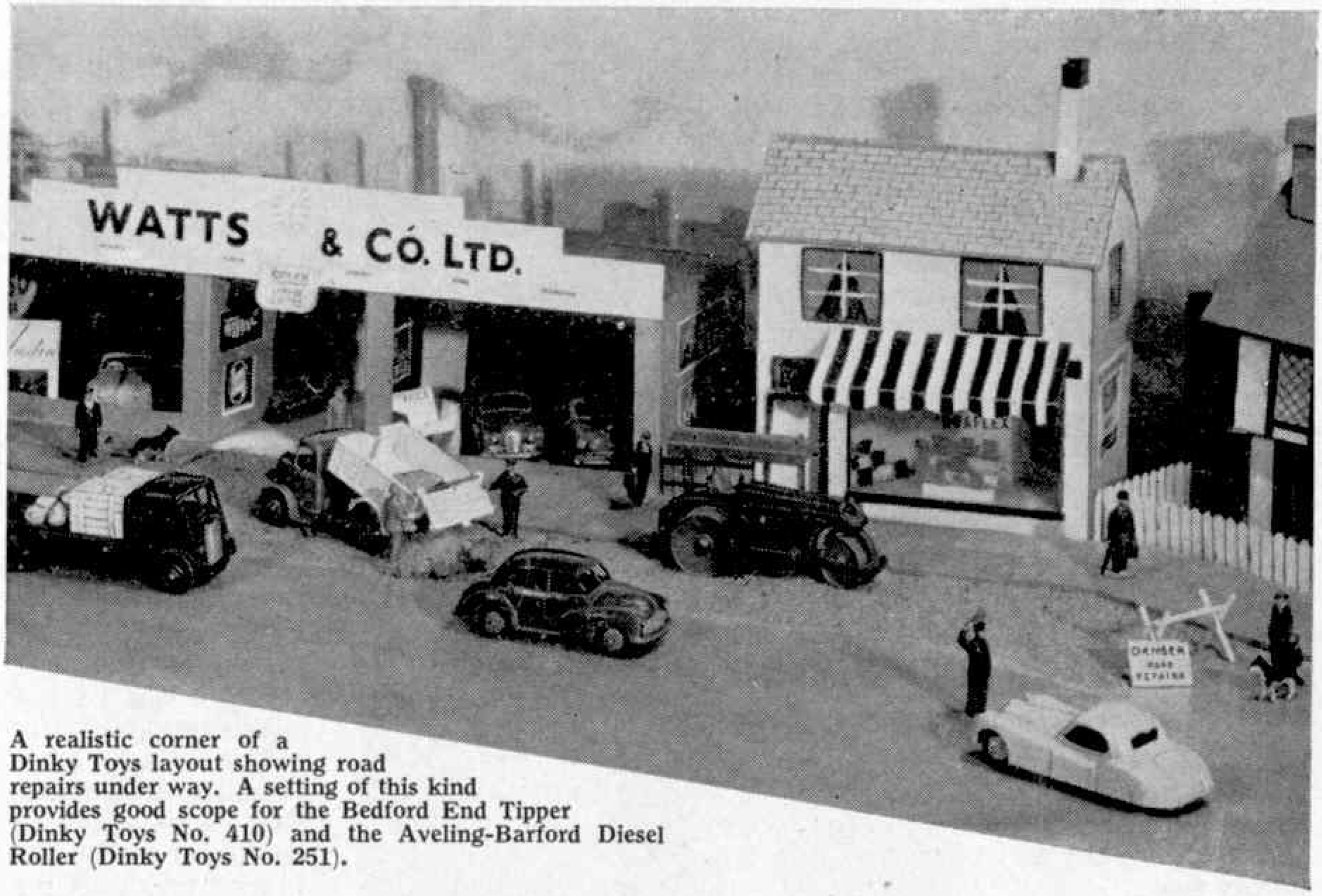
The third Eddystone, in stone, built by Smeaton and immediately preceding the present edifice, continued the same means of illumination, the candles being set on a large diameter corona which is still to be seen in the tower now preserved on Plymouth Hoe. The candles, which required snuffing every half hour, were in use on the Eddystone until 1810 and it is recorded that it was a matter of complaint by the keepers, who had to find their own provisions, that at times they were reduced to eating the candles!

Smeaton's Eddystone Lighthouse, now preserved on Plymouth Hoe.

According to a writer in 1831, Harwich had first a blazing fire of coals, and then six candles of a pound each, burning in a large room with a glazed front, over the principal gate on the southern extremity of the town, to guard vessels from a sandbank. But this arrangement was replaced in the reign of Charles II by lighthouses furnished with lamps "of a peculiar construction."

During the seventeenth century, coal fires became the usual method of lighting. The lighthouse on the Isle of May, in the Firth of Forth, was lit by an open coal fire on the top of the tower in 1635 and retained it for 181 years. Scotland's second lighthouse, placed on the Lesser Cumbrae in 1750, also had a coal brazier. At the North Foreland, an open coal fire replaced the candles in 1694, but the latter returned a few years later, owing to the light of the fire being badly affected by wind and rain.

In an endeavour to combat this failing as well as to economise in coal wastefully consumed under the "forced draught," lighthouse fires were enclosed in glass lanterns; the fire-grate from the old lighthouse on St. Agnes, in the Scillies, one of the first to be so fitted, is still preserved on the island of Tresco. The lighthouse at Portland Bill was similarly fitted in 1716, but it was a case of out of the trying pan into the fire, as the glass screen was obscured by the smoke and in some cases the fire, draughtless, had to be blown into flame by bellows. The introduction of a form of chimney followed, but it was not until the middle of last century that the last lighthouse coal fire was extinguished.



A realistic corner of a Dinky Toys layout showing road repairs under way. A setting of this kind provides good scope for the Bedford End Tipper (Dinky Toys No. 410) and the Aveling-Barford Diesel Roller (Dinky Toys No. 251).

DINKY NEWS

By **THE TOYMAN**

Another New Army Vehicle and a Road Repair Scheme

I AM sure every enthusiast will have welcomed the announcement last month of the introduction of Dinky Toys No. 641, Army 1-Ton Cargo Truck. This is now generally available, but for the benefit of readers who have not yet had an opportunity of seeing this fine model, I am reproducing two pictures showing in full measure its splendid proportions and its realistic appearance. It is 3⅛″ in length and is finished correctly in service green, with Royal Armoured Corps Signs at the front and the rear, while a miniature driver adds a realistic touch to it.

The 1-ton cargo truck is one of the most important of all Army vehicles. It is invaluable for transport duties of many kinds, and although its name implies that it is primarily intended for carrying goods, it can be used in certain circumstances as a light personnel carrier. Thus there is almost no limit to the ways in which the Dinky Toys model can be used in army play schemes, and it is indeed a noteworthy addition to the mechanised army fleet.

Now for some details of my latest attempt at constructing a Dinky Toys road layout scene. Good roads are essential for the speedy transport of goods, and constant maintenance is needed to keep them in first-class condition, so that vehicles of all kinds can proceed safely and swiftly to their destinations. Road repair gangs are constantly at work relaying surfaces and making good the damage caused by heavy traffic, and the warning sign "DANGER, ROAD REPAIRS" must be a familiar sight in every part of the country.

The new Army 1-ton Cargo Truck (Dinky Toys No. 641) with the cover removed.

A close-up view of the Bedford End Tipper and the Aveling-Barford Diesel Roller, at work on a road repair job.

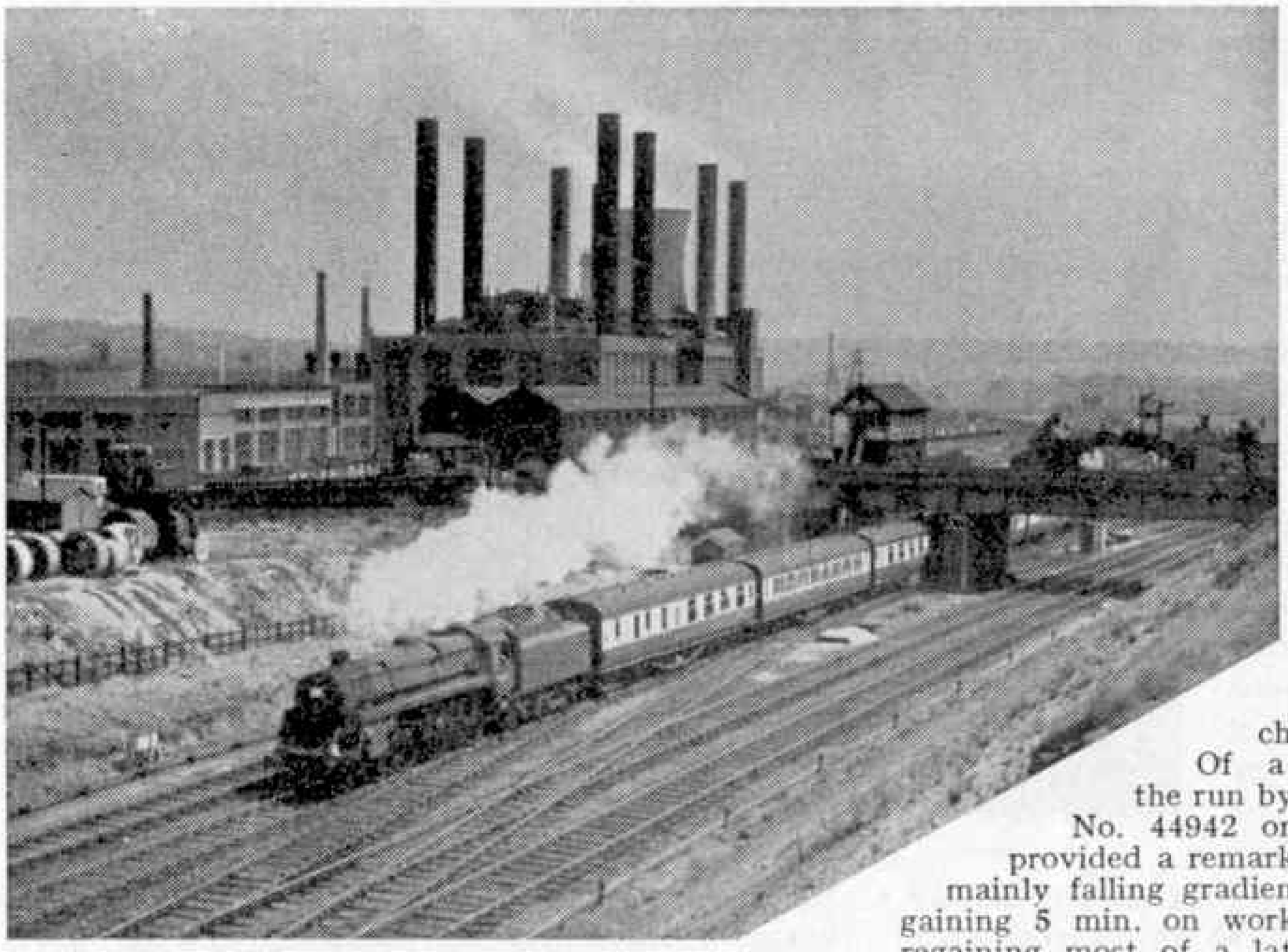
I expect every boy has at some time or other stopped to watch a road repair gang in action, and has then admired the skill with which the driver of the road roller controls his vehicle and smooths out the surface to make a fine level road. It is all the more surprising therefore that, although I have received details of so many readers' layouts, very few of them have a "Highways Committee" responsible for the care and maintenance of the roads in their layouts! Of course in actual fact repair work is seldom necessary, as Dinky Toys roads require little attention apart from periodic dusting! Nevertheless, every Dinky Toys owner does his best to make his layouts as realistic as possible, and a repair gang at work on a section of one of the roads can make all the difference between a toy layout and a real miniature town.

In recent years major road works and repair schemes have been mechanised to a large extent, and huge road graders and surfacing machines are now available that can make or relay roads at amazing speed. The use of these machines is not economical for small repair schemes, however, and this type of work is still carried out by gangs of men spreading and smoothing the surfacing material, with a road roller to apply the finishing touches. My scene represents a small resurfacing job on one of the main roads entering a typical Dinky Toys town. I think you will agree that it adds considerable appeal to what could be a rather bare stretch of road leading to the main part of the layout.

The requirements for a scene of this kind are very simple. A barrier placed at each end of the stretch of road under repair—I made mine from matchsticks glued together—and warning notices are all that are needed to mark out the area on which work is proceeding. For the resurfacing material I used sand, carried to the scene in a Bedford End Tipper, Dinky Toys No. 410. This is an ideal vehicle for the job, and in my layout it is shown unloading a fresh supply of material, while the Aveling-Barford Diesel Roller waits at the side of the road ready to resume its work. Of course this type of road repair calls for a stretch of one-way traffic, and you will notice the Jaguar XK120 held up by the flagman while traffic proceeds in the opposite direction.

A scene of this kind can be moved from day to day to a fresh section of road needing repair. Very often in actual practice the road in front of a busy bus stop needs attention owing to the heavy wear it receives, and a temporary stop must be placed some distance from the usual position. Schemes of this kind can be carried out faithfully in miniature, and they add considerably to the pleasure obtained from a layout.

The new Army 1-Ton Cargo Truck (Dinky Toys No. 641).



A Leeds-Manchester express hauled by B.R. Standard class 5 4-6-0 No. 73025 at Thornhill Junction, on the former L. and Y. line near Dewsbury. Photograph by K. Field.

Railway Notes

By R. A. H. Weight

Some Fine Runs Summarised

From friends and fellow enthusiasts I have received reports of a number of excellent locomotive performances, including stirring efforts by engines and crews handling some of the fastest expresses accelerated for this summer's services. No. 6015 *King Richard III* on the 7-coach, 250-ton *Bristolian* ran down to Bristol, 118¼ miles, in 100¼ minutes, beating the quickest British schedule by 4¾ min., although slowed on account of track and signal repair work before reaching Didcot. Speed elsewhere for more than 100 miles was never less than 73 m.p.h., the maximum down Dauntsey bank was 90!

On the return run with a Bristol instead of an Old Oak crew and travelling via Filton Junction and Badminton instead of Bath, there was a gain of well over 7 min. Paddington was reached decidedly early in less than an hour after passing Swindon, 77¼ miles away! The time was 97¼ min. instead of the 105 min. scheduled for the 117½ miles, after averaging 80 m.p.h. for 76 miles on almost level track. Next evening the same locomotive ran remarkably similarly, with good climbing over the initial gradients as far as Reading but suffered some signal checks subsequently, though thanks to a margin in hand it was in London two min. before time.

With the *Cambrian Coast Express*, another 7-coach train hauled each way on the 2-hr. booking between Birmingham (Snow Hill) and Paddington by No. 5040 *Stokesay Castle*, there was a signal stop for 55 sec. soon after leaving London northbound. Then came several additional slowings and, although the arrival at Banbury stop was 2 min. late, the next 43¼ miles to Snow Hill were covered in 43¾ min., with an arrival 1 min. early. Southbound the stop is at Leamington Spa, to which point an "almost impossible" and "fastest-ever" allowance of only 23 min. is scheduled for the first 23¼ miles. A sporting effort resulted in a time of only 23¾ min., followed by an arrival at Paddington 4½ min. early, the 87¼ miles up from Leamington being covered in 88 min. net. The maximum touched was about 86 m.p.h.

The southbound *Elizabethan* also gave an excellent performance during the first week of this year's 6½-hr. schedule for the 393 miles from Edinburgh to London without a stop. With an 11-coach load, or just over 400 tons, King's Cross was reached 5 min. early by the Haymarket No. 60009 *Union of South Africa*. The average speed was well over 60 m.p.h. all the way, including a number of additional slacks and two signal checks approaching London.

Of a decidedly different type, the run by a class 5 mixed traffic 4–6–0 No. 44942 on an up Birmingham relief provided a remarkable turn of speed down the mainly falling gradients from Tring to Willesden, gaining 5 min. on working times into Euston and regaining most of a late start from Northampton; from Berkhamsted to Wembley, 20 miles were run at an average of 79½ m.p.h. In the 12.50 p.m. Euston-Birmingham 2 hr. express last spring I logged my fastest start to stop run out of London of its kind as rebuilt Scot 4–6–0. No. 46162 *Queen's Westminster Rifleman*, with 10 coaches or 345 tons full, covered the 82½ miles to a special brief halt at Rugby in 80¼ min., including a permanent way repair slowing at Apsley. From passing Tring to stopping at Rugby 70 m.p.h. was averaged, with maxima of 80-82 attained three times.

At Paddington and down the Western Region

To mark the centenary of Paddington station, which occurred in May 1954, a bronze plaque and tablet have been placed by the entrance to the enquiry office on No. 1 platform. This depicts the head and shoulders of the famous Engineer, I. K. Brunel, with an inscription and the G.W.R. coat of arms.

A good deal of the original building still remains, various extensions and improvements to the platform and other accommodation having been made round about 1916 and 1933, together with more recent refurbishing. Including the suburban station it has 15 platforms, two of which are used as a calling point by London Transport electric trains. In the ordinary way Paddington handles the largest number of steam main line and express trains daily of all the London termini.

The *Cornish Riviera Express* has passed its golden jubilee, having been instituted in July 1904 with a non-stop run from Paddington to Plymouth, via Bristol. In 1906 the 20-mile shorter route through Newbury and Castle Cary was brought into use; the distance is now slightly less and freer from speed restrictions on account of using the lines not passing through Frome and Westbury stations. The present starting times are 10.30 from Paddington and 10.0 a.m. from Penzance. For a number of years this train's 225¾-mile London-Plymouth journey was the longest regular non-stop run in the world.

During a recording spell on a June Saturday, largely within about 2 hrs. at Paddington and Ealing, I saw seven different Kings, ten Castles, two Counties and nine Halls, all 4–6–0s. In addition there were a Swindon-built class 4 B.R. 4–6–0, two Britannia 4–6–2s, a 47xx 2–8–0 on a down Bristol semi-fast, and other locomotives in variety. Three Plymouth (Laira) engines went up in 10 minutes, each of a different class. These were *Cromwell's Castle*, *Morning Star*, a Britannia Pacific and *King Edward IV*.

Mr. B. J. Clarke mentions the vast power seen at the

head of the 10.35 a.m. Paddington to Penzance express between Newton Abbot and Plymouth, where double-heading is needed on summer Saturdays with heavy loads on account of steep gradients. On 26th June, for example, the engines passing through Totnes were *King Charles I* and *King Henry VI*.

An Irish railway scene. A typical C.I.E. 8-car diesel train at Claremorris. Photograph by C. L. Fry.

News from the London Midland Region

New Street station, Birmingham, a busy traffic centre for the Western and Midland Divisions, celebrated its 100th birthday with an exhibition. The Pacific *City of Birmingham* was shewn, with two preserved old 2–4–0 locomotives from the former L.N.W.R. and Midland Railways, two historic Royal saloons and other interesting features. A Webb ex-L.N.W.R. 0–6–2T coal tank, No. 58903, since withdrawn, also was about and hauled two circular special trains round the district organised by the Stephenson Locomotive Society.

Class 7 Britannia type 4–6–2 locomotives are under construction at Crewe numbered from 70045 upward, several being ready for service at the time of writing. It is understood they are stationed at Holyhead. Nos. 13051-5 at Crewe South are additional 0–6–0 diesel shunters built at Derby.

Nos. 73053–4, class 5 4–6–0s, were completed and allocated to Leeds. Multiple unit electric rolling stock is on order for the Wirral, Merseyside, services, comprising composite and third class trailer coaches, motor and driving trailer vehicles.

Jubilee 3-cyl. 4–6–0s were taking a considerable share in handling the heavy express and long distance traffic to and from Euston when I was watching the working on a July Saturday. Within about 3 hrs. I noted 12 different locomotives of that class on trains, together with four Pacifics, seven rebuilt Scots, three rebuilt and one unrebuilt Patriots and four class 5 4–6–0s, including one stationed at Fleetwood working a relief Euston-Liverpool express. A number were making long runs between London and Holyhead, Blackpool, Morecambe, Liverpool, Manchester, etc., and would be going through to Carlisle at night. Some of the up expresses were punctual or even early during a busy period when they had secured a clear road and perhaps a fast run from Crewe. There were loads up to 16 bogies.

Further Diesel Developments in Ireland

Mr. C. L. Fry of Dublin has sent an interesting account of the large scale orders placed with British firms for 60 1,200 h.p. six-axle diesel locomotives, 12 of 1,000 h.p. and 34 of 550 h.p. for the C.I.E. system in Eire. In addition 19 smaller diesels are to be built in the company's workshops at Inchicore, Dublin.

These orders indicate an intention to develop diesel traction on a large scale. Already many passenger and express services including the *Enterprise* to and from Belfast, fast Killarney and Cork long-distance trains, etc., are operated with this form of traction. A number of sets are made up of two power coaches, trailer and buffet car; two or more can be coupled together for multiple working with one driver.

Scottish Locomotive Brevities

The two V4 2–6–2s, No. 61700 *Bantam Cock* and No. 61701, have been transferred to Ferryhill shed, Aberdeen, and noted on former Great North of Scotland workings. There are more K1s at Fort William. Latest class 5 4–6–0s are Nos. 73055–8.

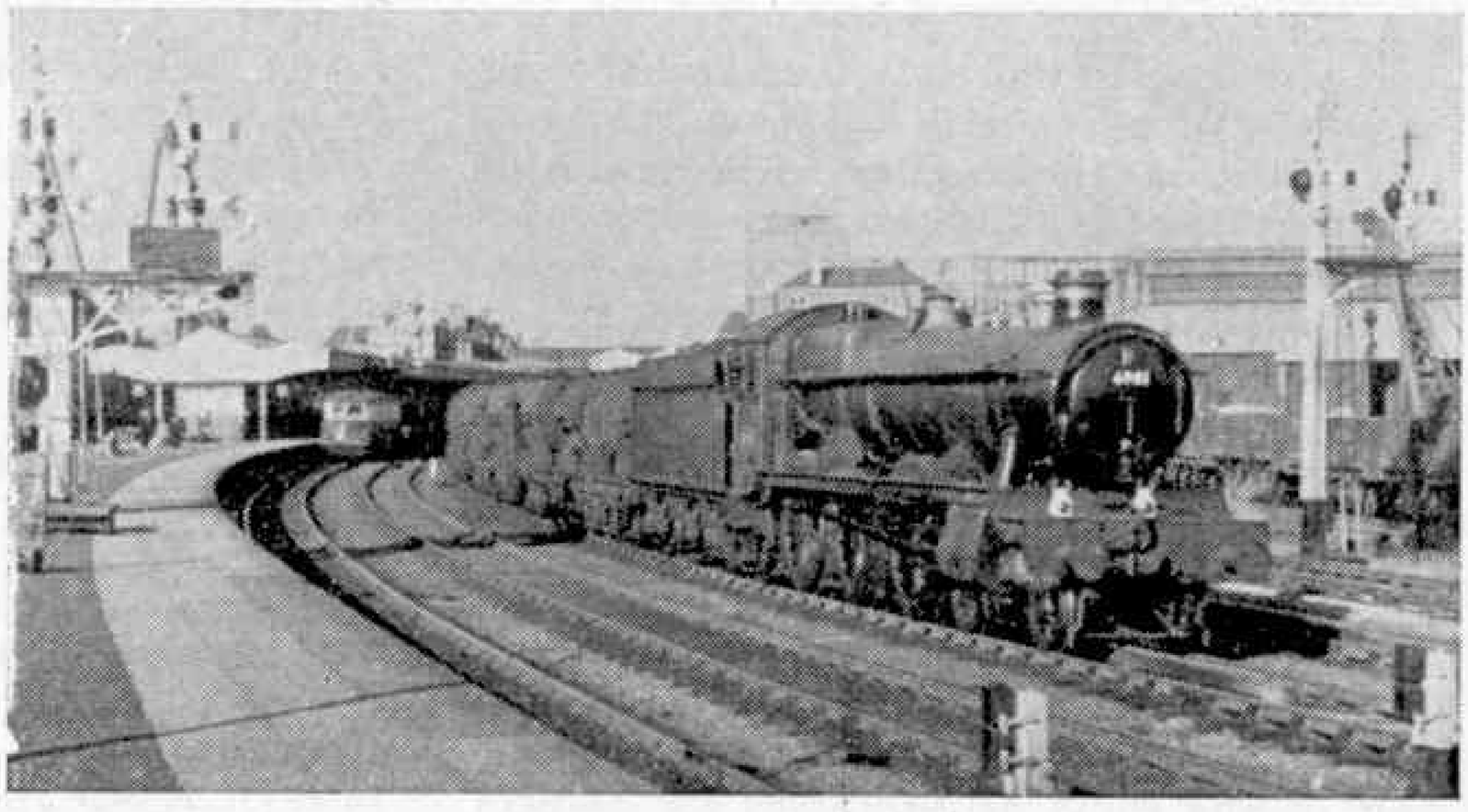
New class 3 B.R. 2–6–0s Nos. 77005-7 were allocated to 66C, Hamilton, and Nos. 77008-9 to 63A, Perth.

Class N14, N.B.R. small-wheeled banking 0–6–2T, has become extinct.

S.R. 10-Car Electric Trains

For some time work has been going on in the way of platform extension, alterations to signalling, trackwork and other lineside or running equipment in order to accommodate longer suburban trains during peak hours and reduce overcrowding. Trains of ten coaches instead of eight began running in June, mainly on the Dartford-Charing Cross route via Bexleyheath and London Bridge.

When the considerable and expensive structural changes and additions necessary have been completed at Cannon Street and at suburban stations on other routes the operation of 10-coach trains will be extended to a number of destinations.



W.R. "Hall" class 4-6-0 No. 6901 "Arley Hall" passing Newport High Street with milk tanks returning from Kensington (London) to Whitland (Carmarthen). Photograph by N. Ewart Mitchell.

Photography with Modest Kit

By T. Holloway

THIS article is expressly intended for those readers who, like myself, possess only inexpensive gear and cannot afford the time to make a really serious study of the science of photography. In other words, we are genuinely in the amateur class—technically, as well as in regard to our modest equipment.

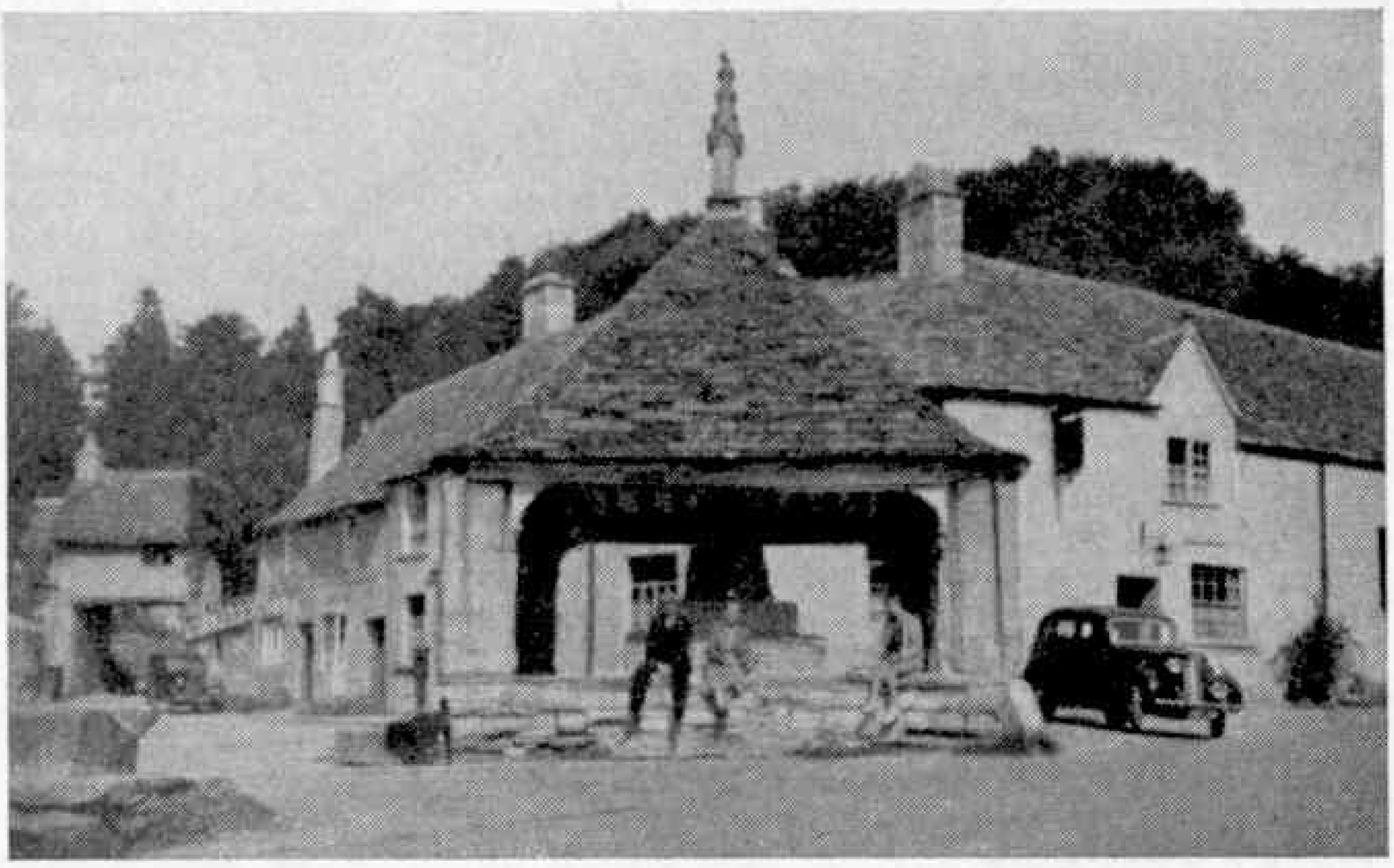
Despite our humble status, there is no reason why we shouldn't give the better-equipped enthusiasts a run for their money, so to speak. We may not be able to compete with them in action pictures, nor in subjects to be photographed in poor light—but we can still challenge them with pictures that are novel in theme or artistic in composition. Don't forget that the best camera in the world cannot of itself make anyone a successful photographer. It is the human element that counts in the long run, and that's what we must learn to exploit to the full.

After acquiring the sense of what makes a good picture and what doesn't, the next most important step is really to know one's camera, its capabilities and limitations. Cameras are like cars. You must know them thoroughly to get the best out of them.

If you have not already found what your camera can or cannot do, I suggest you buy two or three films, preferably of different types, and use them solely for making experimental exposures. Concentrate, say, on a landscape and a building. Take the same subject in different lights, using different stops and exposure times. Record details of each exposure and examine the resulting prints with critical eye. You will probably be amazed how greatly one print differs from the next.

At this point I might drop a hint to owners of box cameras. An experienced photographic dealer told me that almost half of the films he processes for owners of box cameras are hopelessly over-exposed. He explained to me that the average camera-owner usually waits for a sunny day, or a trip to the seaside, to take his or her snaps. A great many people just don't bother to use the stops provided. They use the large stop with gay abandon and forget the others, no matter how glaring the sun or the reflection from sea or sand. If your own eyes are affected by glare, that's a pretty sure guide that the second or smallest stop is called for.

Another common fault is to ignore the fact that box cameras and those folding cameras that have fixed focus only cannot cope with objects that are *less* than six feet distant. Generally speaking, every picture taken below this minimum figure will be out of focus.



The Market Cross, Castle Coombe, Wiltshire. This picture and the other illustrations on these pages are from photographs taken by the author with the simple kit he describes in his article.

This is a serious handicap, of course. It rules out close-ups of small objects, lettering, many nature subjects and so on. But all is not lost, however. By investing in an inexpensive supplementary lens, referred to as a portrait attachment, you can operate down to within approximately three feet of your subject. These portrait attachments are available for fitting to box or folding cameras.

If your camera has variable shutter speeds you cannot hope to operate successfully without the aid of an exposure meter. There are a number of simple and

inexpensive models on the market. By setting in the month, time of day, speed of film and other factors, you can read off the exposure (time and aperture) required. "Hit-or-miss" methods are hopeless.

It pays every time to spend a few extra coppers on getting the best type of film. If you are in doubt as to the type best suited to your need, ask your dealer's advice. There are fast films for use in poor light and for interior work; fine grain films give the best enlargements; and other types are especially responsive to certain colours.

Perhaps I can best indicate the scope for modest equipment by telling you a few of my own experiences. As a writer of magazine articles I very soon found the need for photographs to illustrate some of my topics. It really began when I sent a short note to a cycling magazine, suggesting a few spots in my own county worthy of a visit. The editor replied that he could use the notes provided I could send along two or three photographs of places referred to.

With much misgiving I set out next morning for the lovely old-world village of Lacock, armed with a faithful but aged box camera and a couple of films. Whether by luck, or because the old camera was in a particularly co-operative mood, I cannot say, but a couple of my pictures duly appeared in print.

If I could satisfy one editor, why not another? The upshot was that I let Old Faithful have a snap at some picturesque thatched cottages, a church furnished with horse-box pews and a quaint old-time three-decker pulpit, a picturesque market cross and a few other wayside oddities. Much to my surprise, nearly all these pictures appeared in print, a few in magazines whose names are known to you all.

"What will happen if I touch one of these round white things?"

Yes, there's a lot to be said in favour of box cameras like Old Faithful. And very probably your model could put up a better show than mine if it were put to the test, as post-war models are generally superior in many ways to the old-timers.

My next adventure into "modest kit" photography was the result of having a friend who was a keen naturalist. He showed me a fine picture of an owl feeding its youngsters, taken by Eric Hosking, that brilliant nature photographer.

"What do you say to trying our hand at a few wild life pictures?" he asked. "Out of the question," I replied. "The gear those chaps use costs a small fortune."

And, indeed, it does. Or *could* do. But we talked the matter over and eventually decided that maybe after all there were a few branches of nature photography we could at least investigate at very little cost.

Our chief asset was my colleague's folding camera, far

A moorhen on its nest,

from new, but having shutter speeds up to a hundredth of a second. To this we added a wooden tripod, which in earlier life had been a magic lantern stand, and a few flash-bulbs for night work. These we fitted with home-made tin reflectors. My chief

A badger leaving its earth, photographed by flashlight.

contribution to the set-up was a home-made "hide," constructed from sacking and a few seven feet poles and furnished with a couple of folding camp stools.

After reading all the nature photography books we could lay hands on, we decided we were all set to go into action. A friendly farmer had given us permission to roam a small wood, through which flowed a stream that broadened out into a fair-sized lake. What more could any budding nature photographer wish for? Accordingly we set forth on our first excursion in high spirits, and with a couple of spools of film as ammunition. Some hours later we returned, rather sheepishly, with two spools of film—*unexposed!*

Our woodcraft was hopeless. I believe that every creature in that wood knew we were coming, even before we started. At any rate, about the only living thing we saw was a squirrel—and he was eyeing us suspiciously from the top of a fifty-foot fir!

Instead of blundering about in the undergrowth, we had to learn the wisdom of setting up the hide at least one day before attempting work and to approach and enter the shelter with the stealth of Indian scouts. It only needs the alarm note of a blackbird to put every bird and animal on the alert. You have to pit your skill against the cunning of the wild folk—and very often it is the wild folk who win the day.

But we were determined to "shoot" something—even if it were only the tail-end of a rabbit—which, incidentally, actually *was* our first result! Our first real triumph was a moorhen on its nest, photographed after a long vigil in the hide set up at the edge of the lake. Shortly afterwards, to our great delight, a little grebe arrived at the lake and began nest-building operations, and of this we eventually obtained a fine picture.

When nothing more interesting could be tracked down we concentrated on nests and eggs. Actually, this branch of nature photography could keep one fully occupied from early March until about the end of June. No need to worry overmuch about high shutter speeds, and you can take your time about the job. Mind you, there *are* snags—not the least of which is that birds seem to delight in building in the most awkward and inaccessible places. And you need a head for heights to photograph the eggs and nests of birds like rooks, sparrow-hawks and so on!

It was a red-letter day when we discovered a badger's earth in the steeply-sloping bank of the stream beyond the lake. That Brock was in residence was evident, for in the soft sandy soil he had excavated were the unmistakable five-toed prints we had so often hoped to find.

We lost no time in making plans to get his picture. To amateurs like ourselves, this was a major operation. For a few nights we kept watch from our hide and finally established the fact that the badger emerged from the depths at almost the same time each evening—approximately an hour after sunset. We also noted that he invariably climbed the bank by the same path, after a brief pause just outside the entrance of his earth.

Being a night-op, it meant that flash-bulbs were called for. The problem was how to synchronise the bulbs with the shutter. In the (*Continued on page 458*)

BOOKS TO READ

Here we review books of interest and of use to readers of the M.M. With certain exceptions, which will be indicated, these should be ordered through a bookseller.

"SWANSEA AND MUMBLES RAILWAY"

By CHARLES E. LEE, F.R.S.A., M.Inst.T.
(The Oakwood Press 7/6)

This is the second edition of a work originally published in 1942 with the title *The First Passenger Railway*. The Swansea and Mumbles line, now an electrically operated light railway worked by tramcar-type vehicles on the overhead wire system, is in fact the oldest surviving passenger railway in the world. In its earlier days it was worked first by horse traction and then by steam. Now its passenger services are electric, but petrol and diesel locomotives have shared in the goods work.

It is 150 years since the line, as the Oystermouth Railway or Tramroad Company, obtained its Act and in its original form it was a plateway with angle iron rails, the vehicles having plain or unflanged wheels. By 25th March 1807 the regular conveyance of passengers began. Although goods traffic passed along the railway, contemporary writings suggest that the passenger traffic was the chief business. The passenger service carried on at least until 1827, but the construction of a turnpike road between Swansea and Oystermouth in the previous year ultimately resulted in the withdrawal of the rail services and the substitution of one along the highway. Years later part of the line was relaid with edge rails and a passenger service, horse drawn, began to run again, but not over the whole length of the railway, at least for the time being.

Later the Swansea Improvements and Tramways Company formed in 1874 was empowered to run over the Oystermouth line and it began to work the system in 1877. Steam traction was soon introduced, but the horse was not completely superseded for many years after. Finally this gave way to electric power some 25 years ago.

Mr. Lee tells the somewhat involved history of the line as regards its ownership and so on in a painstaking, but interesting manner. Not only so, but details of the stock at various periods are given, together with a fascinating section on the signalling and safety devices in use.

The book is well illustrated, some of the earlier views being distinctly quaint, and the student of railway history will welcome the appearance of this second edition, copies of which can be obtained for 7/9, including postage, from the Oakwood Press, Tanglewood, South Godstone, Surrey.

"TRAINS ALBUM No. 3"

(Ian Allan 1/6)

Western Region enthusiasts, and there must be many of them, will be glad to see this book, in which they will find pictures of trains on their favourite Region. There is variety in plenty, not only in the trains shown, but also in the engines. A gratifying feature is that attention is by no means confined to the large and more important classes. Kings, Castles and Halls of course are there, but there are also other members of the Swindon locomotive family, down to Prairie Tanks, the Dean Goods and the Panniers and they are shown from a pleasing number of different angles.

"ABC OF HELICOPTERS"
"ABC OF CIVIL AIRCRAFT MARKINGS"

By JOHN W. R. TAYLOR (Ian Allan 2/6 ea.)

ABC of Helicopters extends still further the range of the excellent Aviation ABC's compiled by Mr. Taylor, who is well known to *M.M.* readers. It is certainly comprehensive, for it includes photographs and data of every type of helicopter flying anywhere in the world for which information could be acquired. In each case the main technical details are given, if available, together with a brief note on the history of the aircraft.

The 1954 edition of *ABC of Civil Aircraft Markings* lists in alphabetical order the registration markings of British civil aircraft, corrected up to 1st April last. Similar tables list the registration markings of foreign airline fleets, but include only those aircraft serving the United Kingdom. The handbook also includes helpful notes on military registrations, and for the first-time prototype serial numbers and impressment serials. The latter are R.A.F. serial numbers allotted to civil air transports under charter to the Government and used for trooping flights.

Both booklets are fully illustrated by half-tone pictures of current types.

"WE GO TO THE CHANNEL ISLANDS"

By MARY DUNN (Harrap 8/6)

Readers who enjoyed the earlier stories in this delightful series of travel books will welcome this further adventure of Jane and Michael—this time spending an Easter holiday in the Channel Islands. At Jersey they meet an elderly but lively history professor, Dr. O'Grady, and his young son Tim, and in their company Jane and Michael visit Guernsey, Alderney, Sark and Herm, learning many interesting things about the Islands and exploring ancient castles and smugglers' caves.

The book has charming half-tone illustrations of picturesque places in the Islands, and is illustrated also by line drawings and pictorial maps of Jersey and Guernsey.

THE STORY OF NEW STREET

By F. W. GROCOTT (British Railways 1/–)

Busy New Street Station, Birmingham, was 100 years old last June and the present booklet was published in connection with the Exhibition held there to honour the centenary. From any angle it is a good shilling's worth, for in order to tell his story adequately the author necessarily details the coming of railways to Birmingham. The first line reaching this important Black Country centre, in 1837, was the Grand Junction, from the north. The next year saw the completion throughout of the London and Birmingham Railway, the first main trunk system, and from these there gradually grew up the extraordinary web of railway lines that serve New Street and the Birmingham district.

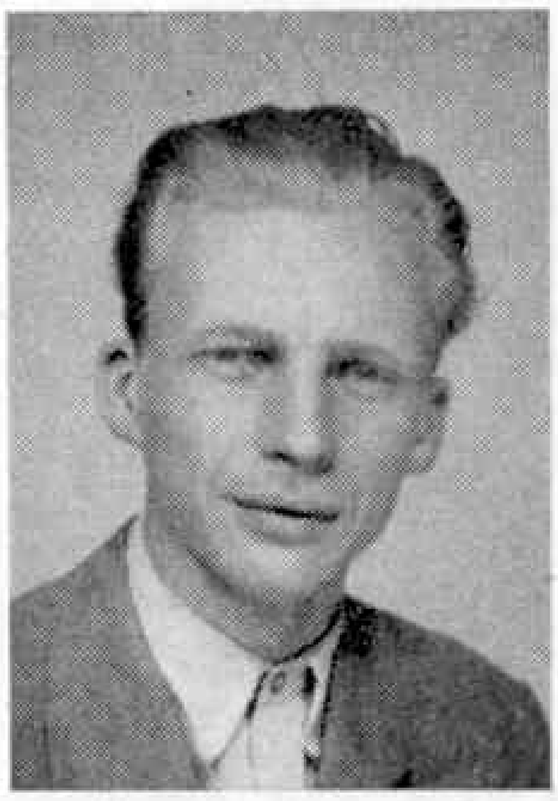
These various routes are shown in a fascinating map at the beginning of the booklet. The remainder of the illustrations are excellent pictures showing various scenes in connection with the development of the station. Numerous details concerning the station itself, its characteristics, its traffic and so on are included.

Copies are obtainable at 1/– each from District Publicity Representative, British Railways (London Midland Region), 64 Cardington Street, London N.W.1.

"THE YOUTH CLUB BOOK OF RECREATION"

By E. M. R. BURGESS
(Brown, Son and Ferguson 8/6)

All who have anything to do with the running of Youth Clubs, Scout organisations, or any communal activity for young people, will find this book of great value in planning games and competitions as lighter relief to the more serious activities that make up their programme. It contains nearly 200 excellent and detailed suggestions on the above lines. The clear and simple instructions given are enlivened by humorous sketches, and where necessary there are useful diagrams. In the case of competitions, the answers are given at the end of the book.



N. Gottlob, Hjortekaer, Denmark, delights in designing mechanisms in Meccano. Several ideas of his have already been mentioned in the "M.M."

Among the Model-Builders

By "Spanner"

This young Meccanoite is Mario Bo, who lives at Guastalla, Italy. He has a recent success in a Meccano Competition to his credit.

A Useful Roller Bearing

One of the items most often required in model-building is a strong bearing suitable for supporting a heavy superstructure, such as the cab of a swivelling crane or the span of an opening bridge. Many useful bearings of this kind have already been described and illustrated in the *M.M.* There are indeed so many ways in which they can be built that no one should have any difficulty in assembling a unit suitable for any model.

One example of a roller bearing, which provides a substantial mounting for a quite heavy structure, is shown in Fig. 1. It consists of a Circular Girder, which has two 5½" Strips bolted across it, and to this is fixed a 4" Circular Plate. This section of the bearing is bolted firmly to the fixed part of the model. The ring that carries the rollers is a 7½" Circular Strip, with eight Double Brackets bolted to it. A 1½" Rod fitted with a Collar is passed through each Double Bracket, and a ¾" Flanged Wheel is fixed on the Rod but is spaced from the Double Bracket by three Washers. The Flanged Wheels run on the rim of the Circular Girder.

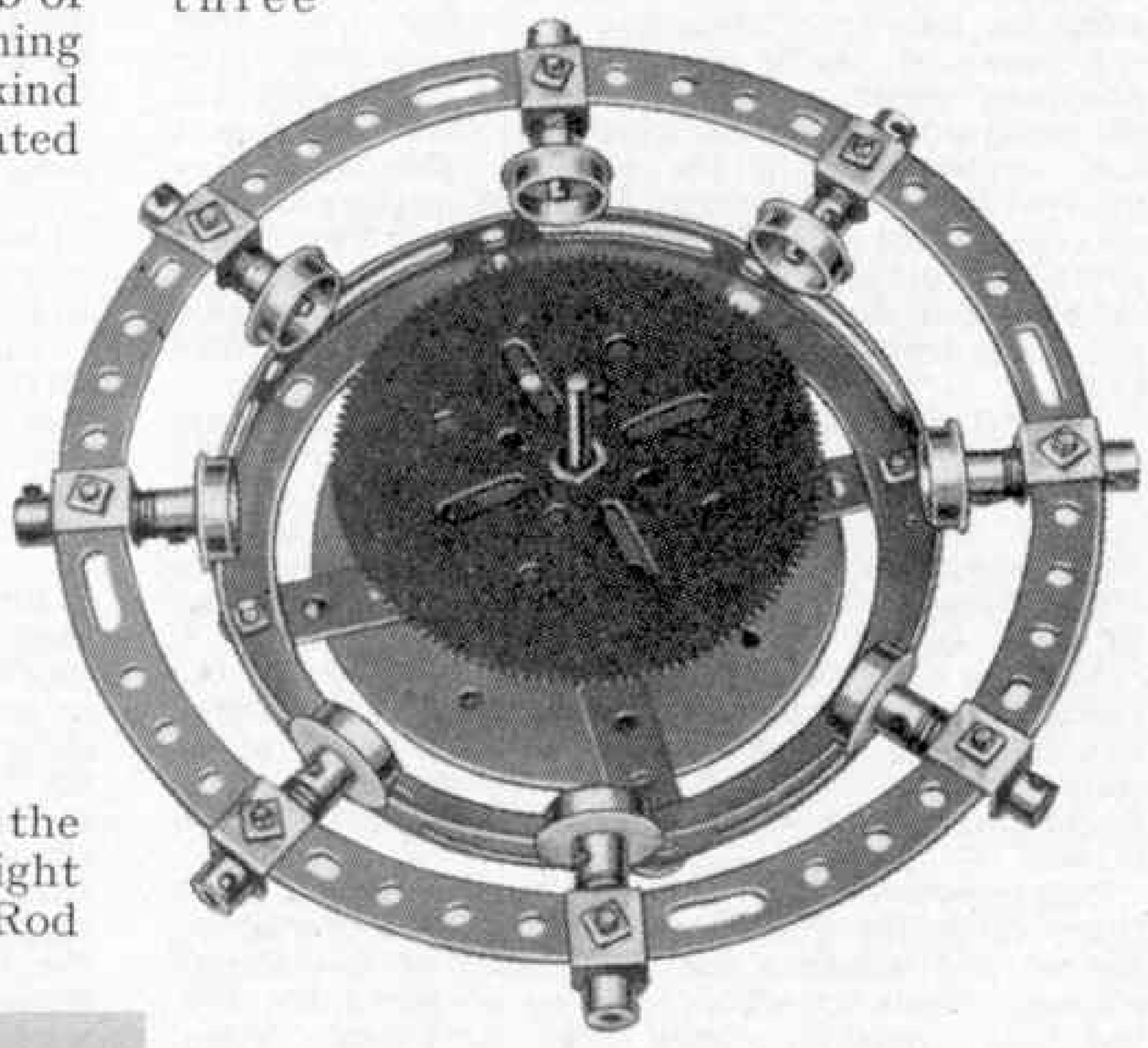


Fig. 1. The sturdy roller bearing described on this page.

The swivelling section is a Hub Disc or a Circular Girder. A Rod is passed through the centre of the bearing, and Collars fixed on it are used to hold the sections in place.

A Novel Windmill

The windmill shown in Fig. 2 is no doubt a familiar sight to the Meccano and

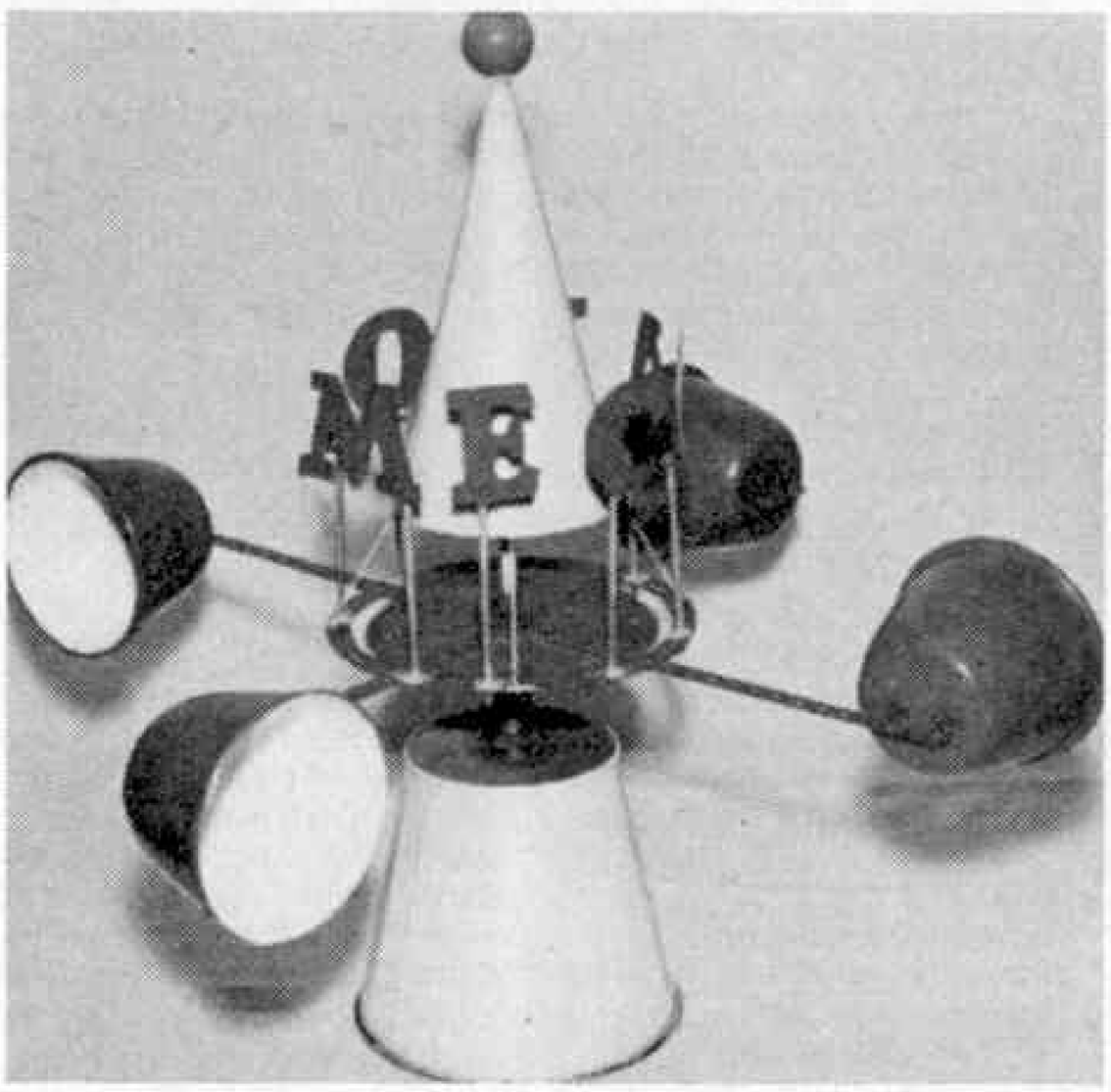


Fig. 2. This novel windmill is to be seen over the shop of Messrs. J. and K. Harris, Meccano dealers, at Puckeridge, Herts. It was made by Mr. J. Harris and some details of it are given on this page.

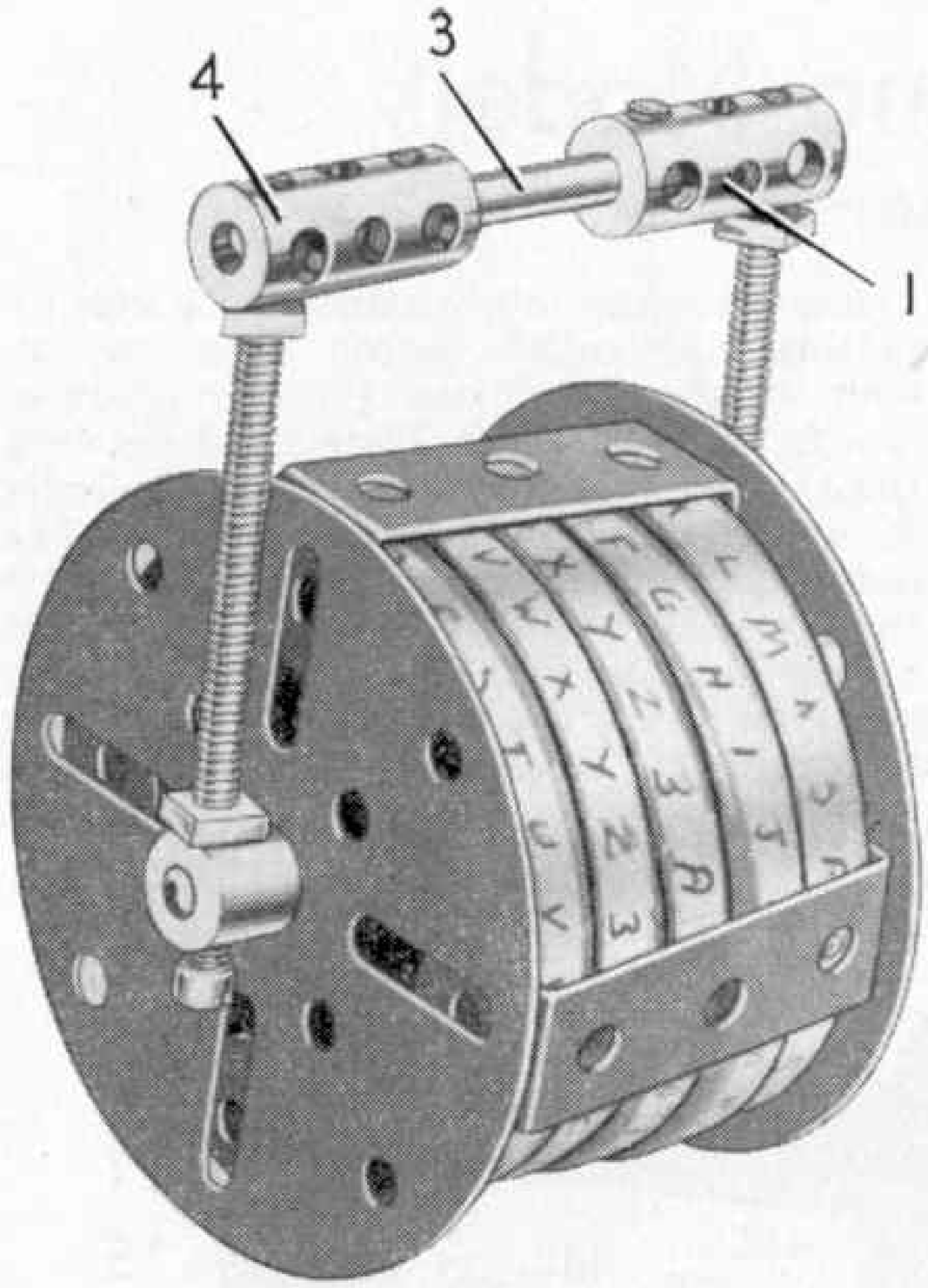


Fig. 3. A Meccano combination lock.

Hornby Train enthusiasts of Puckeridge, Herts, as it is mounted over the shop of their local Meccano dealers, Messrs. J. and K. Harris. Spinning merrily around in the slightest breeze, it readily attracts the attention of passers by.

The windmill was built by Mr. J. Harris from an odd collection of bits and pieces, in conjunction with Meccano parts. For the wind buckets he has used aluminium basins, mounted on arms consisting of Meccano Strips attached to a Circular Strip and a Circular Plate. The axle is a piece of gas pipe mounted in a seaside bucket, and the letters of the word "Meccano" are cut from sheet aluminium. The letters are suitably coloured, and as they rotate they show up clearly against the central white cone.

The windmill operates so freely that the slightest breeze is sufficient to keep it in motion. I congratulate Mr. Harris on his ingenuity and hope that the windmill will continue its merry career for a long time to come.

A Meccano Combination Padlock

If you are on the look-out for a novelty in model construction I can recommend the interesting combination lock shown in Figs. 3 and 4 for your attention. It takes very little time to assemble it, and the work will provide a very pleasant change from ordinary model-building.

The device consists of two parts, shown assembled in Fig. 3 and separately in Fig. 4. Four $1\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips, bolted in the radial slots of a Face Plate, form a cage for five Wheel Flanges. The bolt heads are on the outside of the Face Plate and a second nut is threaded on each bolt. The Wheel Flanges are inserted by bending one of the Double Angle Strips outward and replacing it when they are in position. A 2" Screwed Rod is fitted in the boss of the Face Plate and carries a Coupling 1, which is locked by a nut. Five Collars are fixed on a 2" Rod 2 with a small space between each, and carry Set Screws arranged in line. Strips of paper are gummed round the edges of the Wheel Flanges, and numerals or letters are marked on each strip.

The cut-away portions in the centres of the Wheel Flanges, when arranged in line, allow the Set Screws in the Collars on the Rod 2 to pass through unimpeded. The end of the Rod fits into the boss of the Face Plate, and the Rod 3 engages the Coupling 4. With the Wheel Flanges in this position the markings are read off against one of the Double Angle Strips. As soon as one of the Wheel Flanges is rotated, the withdrawal of the Collars on the Rod 2 is prevented until all the cut-away portions of the Wheel Flanges are again in line.

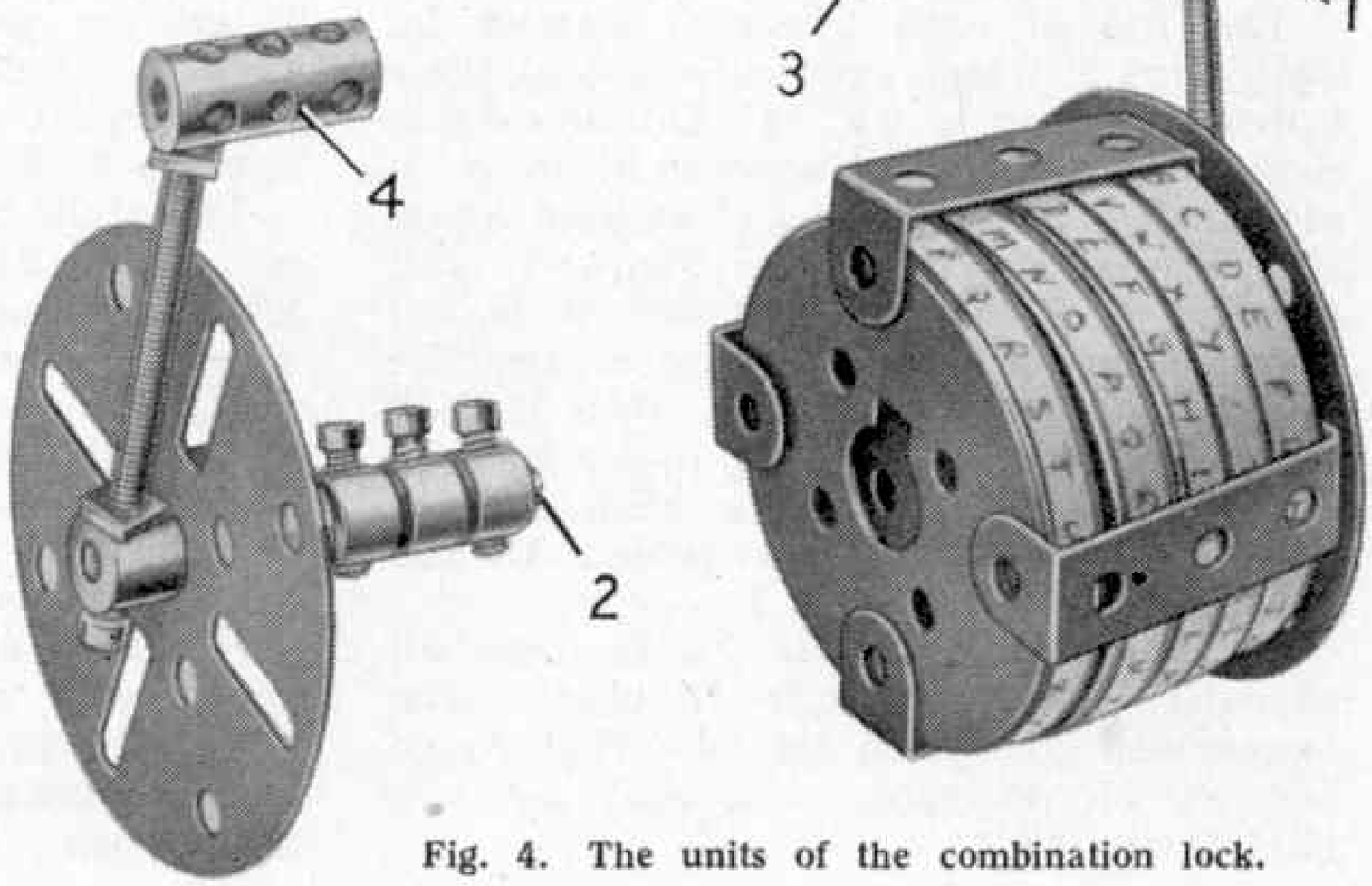


Fig. 4. The units of the combination lock.

New Meccano Models

Bascule Bridge—Tractor

THIS month we are providing two models of very different types. One is a bascule bridge designed for Outfit No. 5, while the other is a small but powerful agricultural tractor.

We will describe the Bridge first. The two towers are similar in general design, but vary in some details. Each of them consists of four 12½″ Strips bolted to 5½″ Strips 1 and 2½″ Strips 2, and connected by a 2½″ × ½″ Double Angle Strip held by the ⅜″ Bolts 3. The Double Angle Strip is spaced from the tower by two Washers on each side, and a Fishplate is fixed in position by each Bolt.

The sides of the towers seen in the illustration are filled in by 5½″ × 2½″ and 4½″ × 2½″ Flexible Plates. The opposite sides are completed by two 5½″ × 2½″ Flexible Plates and the separated halves of a Hinged Flat Plate.

A 2½″ Stepped Curved Strip 4 is attached to each tower by Angle Brackets, and a 2½″ × 2½″ Flexible Plate is bolted to the Curved Strip and to a 2½″ × ½″ Double Angle Strip held by the bolts 5. A 1 11/16″ radius Curved Plate 6 is connected to the tower by Obtuse Angle Brackets.

The top of each tower is formed by 2½″ Strips 7, which are connected at their upper ends by a 2½″ × ½″ Double Angle Strip. A 2½″ × 2½″ Flexible Plate 8 is attached to another 2½″ × ½″ Double Angle Strip bolted between the Strips 7, and two 2½″ × 1½″ Flexible Plates 9 bolted together are fixed by a Double Bracket to one of the Strips. A 4″ Rod is held in place at the top of the tower by two 1″ Pulleys, placed one on each side of the Double Angle Strip bolted to the upper ends of the Strips 7.

A Semi-Circular Plate 10 is attached to each tower by Angle Brackets. The towers are connected by two 12½″ Angle Girders 11 on each side, and by two 12½″ Strips 12.

Each of the approaches is made by bolting a Flanged Sector Plate to the ends of the 5½″ Strips 1. The roadway is a 5½″ × 1½″ Flexible Plate fixed between the Double Angle Strip held by the Bolts 3, and the Flanged Sector Plate. The outer end of the approach is supported by two 2½″ × 1½″ Triangular Flexible Plates fixed to the Flanged Sector Plate, and the bolts holding them in position fix also ½″ Reversed Angle Brackets.

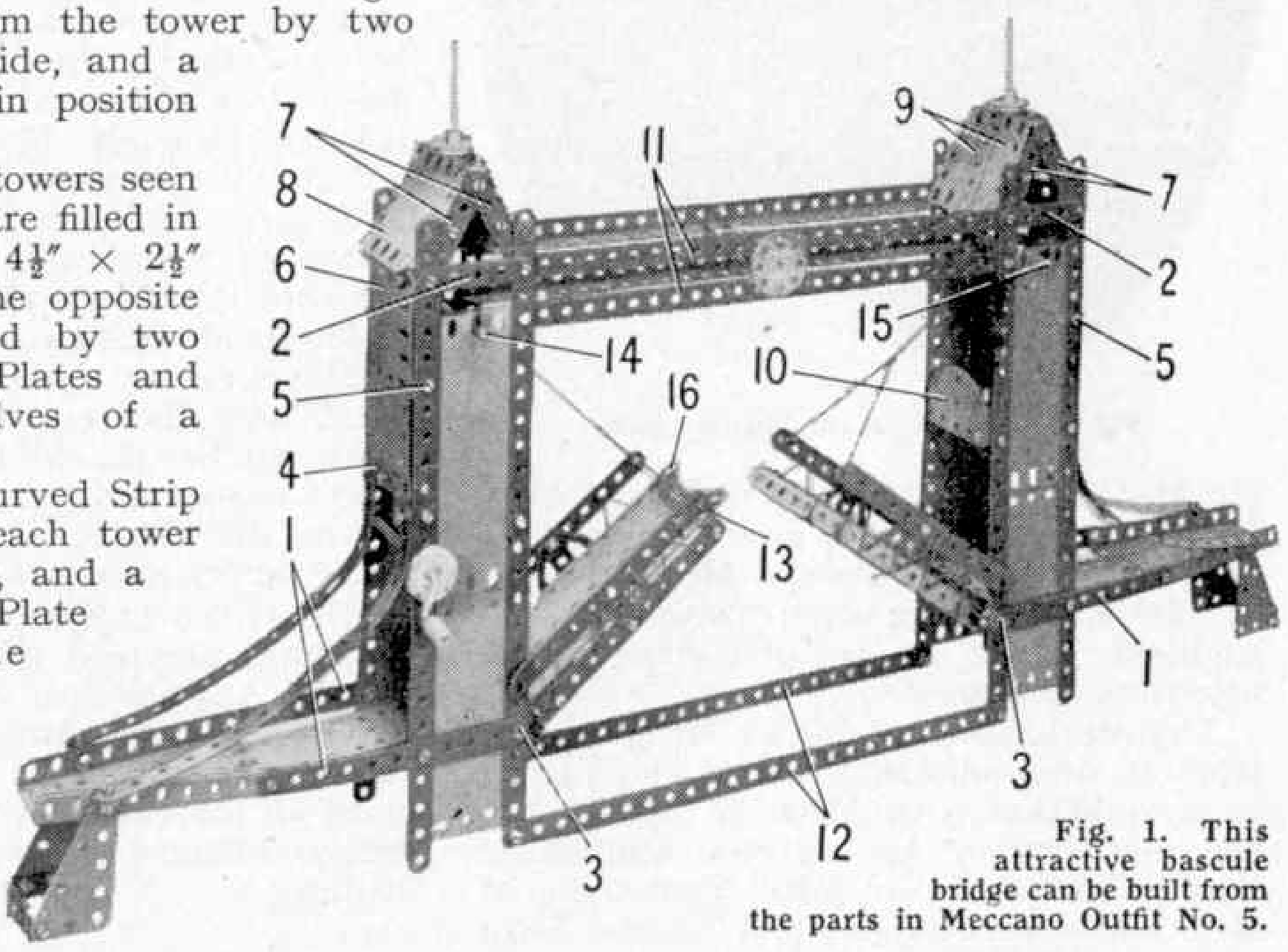


Fig. 1. This attractive bascule bridge can be built from the parts in Meccano Outfit No. 5.

The lower ends of the Triangular Flexible Plates on one side are connected by a 1½″ × ½″ Double Angle Strip, and the Plates on the other side are joined by two 1″ × 1″ Angle Brackets bolted together.

The right-hand span in the illustration is a 5½″ × 2½″ Flanged Plate, and the left-hand span consists of two 5½″ × 1½″ Flexible Plates fitted at one end with a 2½″ × ½″ Double Angle Strip 13, and at the other end with a 2½″ × 1½″ Flanged Plate.

The spans pivot on 3½″ Rods supported in the Fishplates held by the Bolts 3. A Crank Handle is mounted in one of the towers as shown, and a length of Cord tied to it is taken over a Rod 14 and is fastened to the end of the left-hand span. A second length of Cord is

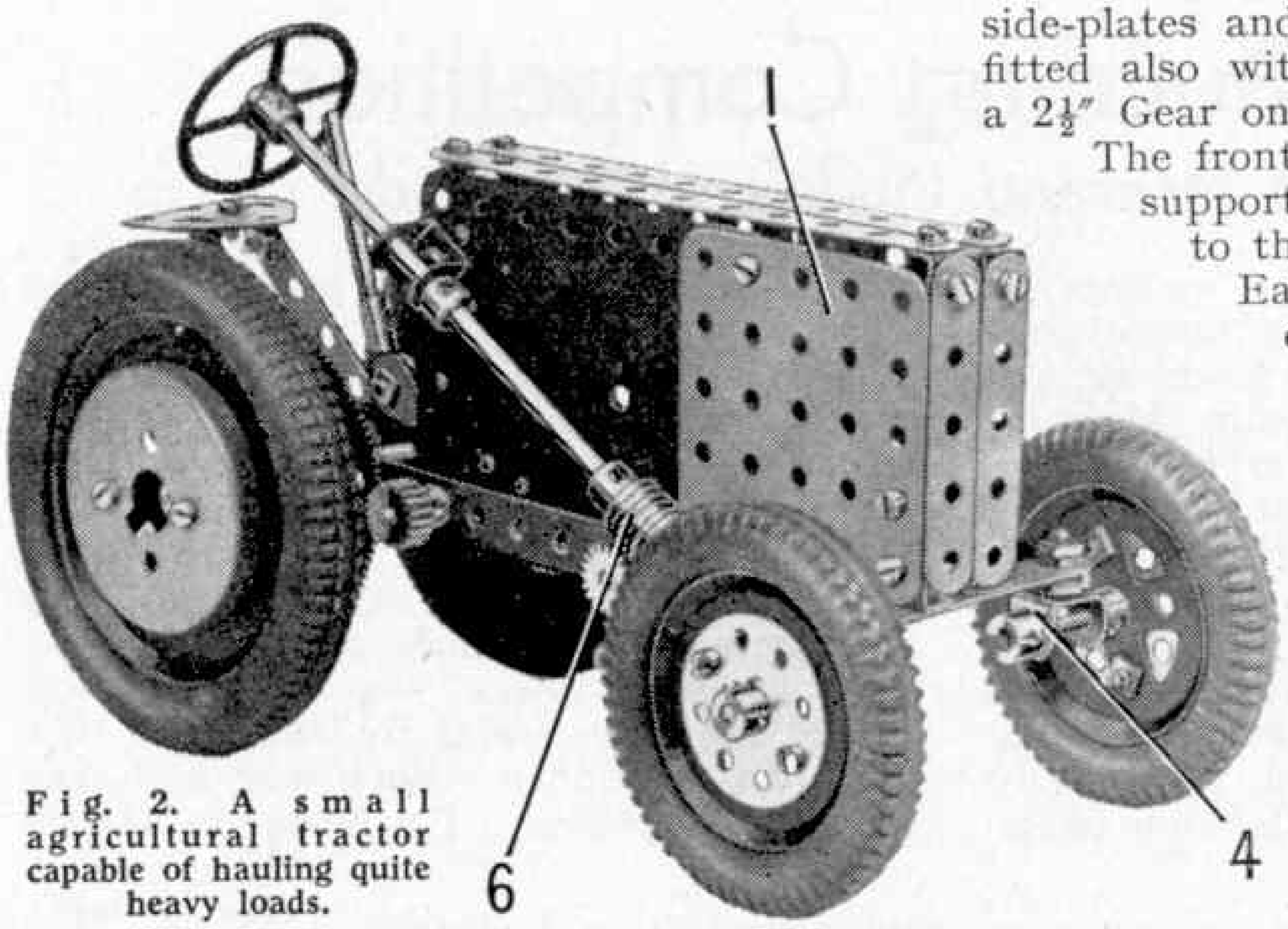


Fig. 2. A small agricultural tractor capable of hauling quite heavy loads.

tied to the first length at a point inside the tower, and is led over Rod 14 and another Rod 15. This Cord is then fastened to the end of the right-hand span. The slight gap between the spans in their lowered positions is bridged by a 2½″ Stepped Curved Strip 16 bolted to each span.

Parts required to build the model Bascule Bridge: 10 of No. 1; 14 of No. 2; 12 of No. 5; 4 of No. 8; 4 of No. 10; 2 of No. 11; 10 of No. 12; 2 of No. 12a; 4 of No. 12c; 2 of No. 15b; 4 of No. 16; 1 of No. 19g; 5 of No. 22; 2 of No. 24a; 9 of No. 35; 115 of No. 37a; 110 of No. 37b; 17 of No. 38; 1 of No. 40; 1 of No. 48; 8 of No. 48a; 1 of No. 51; 1 of No. 52; 2 of No. 54; 4 of No. 90a; 5 of No. 111c; 4 of No. 125; 2 of No. 126; 2 of No. 126a; 1 of No. 176; 4 of No. 188; 4 of No. 189; 4 of No. 190; 2 of No. 191; 4 of No. 192; 1 of No. 198; 2 of No. 200; 2 of No. 214; 4 of No. 215; 4 of No. 221.

The simple tractor seen in Figs. 2 and 3 is very powerful for its size, and will haul quite heavy loads. Construction is begun by bolting a 5½″ Strip to each side-plate of the Motor. The Strips are spaced from the side-plates by a Washer on each bolt, and they are connected at their rear ends by two 1″ × ½″ Angle Brackets. At the front the Motor plates are extended by 2½″ × 2½″ Flat Plates 1 as shown.

A ½″ Pinion on the Motor driving shaft meshes with a 57-tooth Gear on a 2″ Rod 2. This Rod is supported in the side-plates and the 5½″ Strips, and it is fitted also with a ½″ Pinion that drives a 2½″ Gear on the rear axle.

The front axle beam is a 3″ Strip 3 supported by Angle Brackets bolted to the ends of the Flat Plate 1. Each front wheel is free to turn on a Rod supported in a Double Bracket 4. At one side a 1½″ Rod is used and at the other side a 2″ Rod carries the wheel. The Double Bracket 4 and a 1½″ Strip 5 on each side are fixed by a nut on a ½″ Bolt, which is then fitted with two Washers and is lock-nutted in the Strip 3.

The steering column is supported in a Double Bracket and an Angle Bracket, and it carries a Worm 6 that engages a ½″ Pinion on a 1½″ Rod. A Swivel Bearing 7 is passed over a ¾″ Bolt and lock-nuts are placed above it. The Bolt is then screwed tightly into a threaded hole in the ½″ Pinion. The Swivel Bearing 7 is connected by a 2″ Rod to a second Swivel Bearing 8.

The bonnet cover and radiator are attached to an Angle Bracket bolted to the rear end of the Motor.

Parts required to build the Clockwork Tractor: 4 of No. 2; 2 of No. 4; 4 of No. 5; 2 of No. 6a; 2 of No. 10; 4 of No. 11; 4 of No. 12; 4 of No. 12b; 1 of No. 14; 1 of No. 15b; 4 of No. 17; 2 of No. 18a; 2 of No. 19b; 2 of No. 20a; 2 of No. 24a; 3 of No. 26; 1 of No. 27a; 1 of No. 27c; 1 of No. 32; 1 of No. 77; 1 of No. 111;2 of No. 111a; 3 of No. 111c; 1 of No. 126a; 2 of No. 137; 2 of No. 142a; 2 of No. 142b; 2 of No. 165; 1 of No. 185; 1 of No. 212; 1 No. 1 Clockwork Motor.

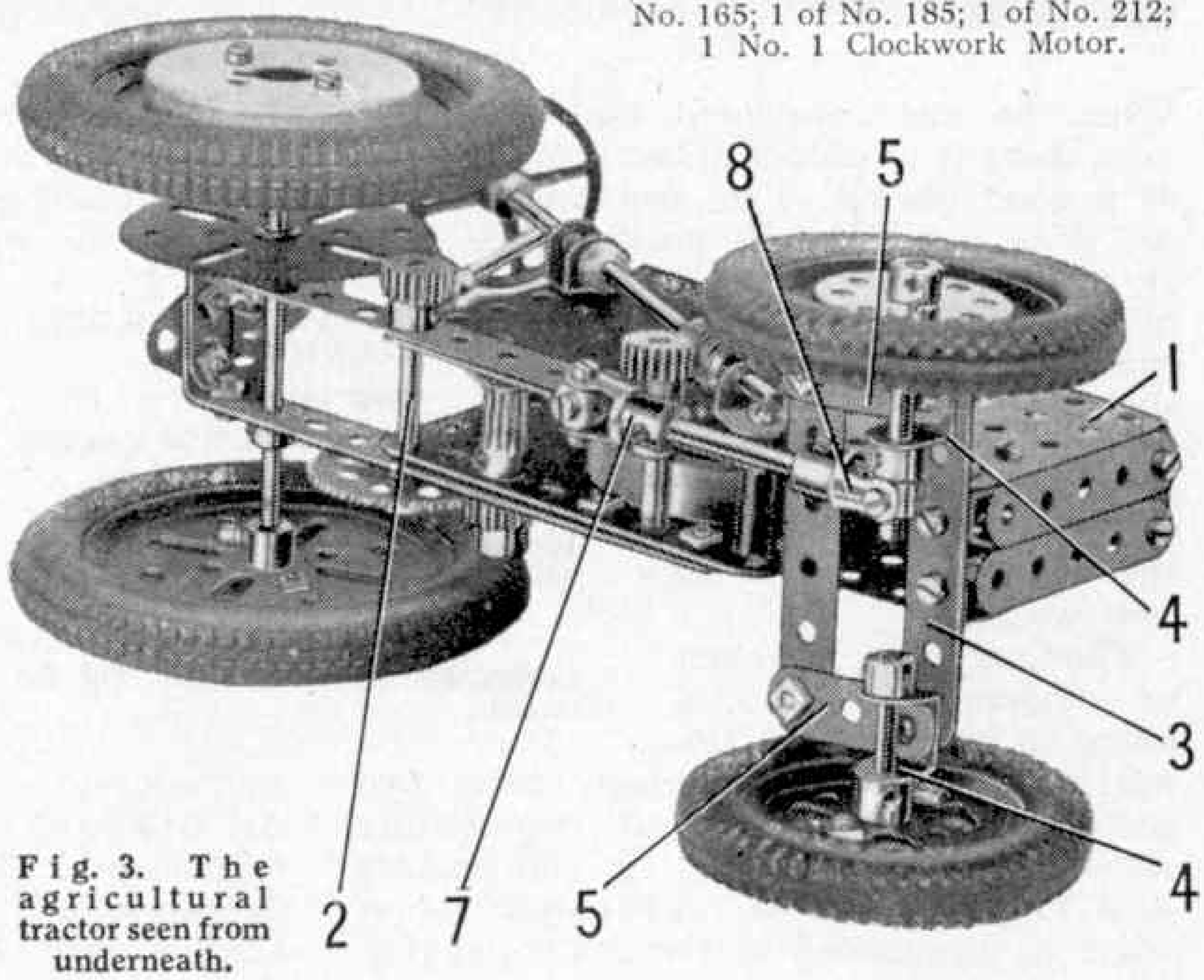


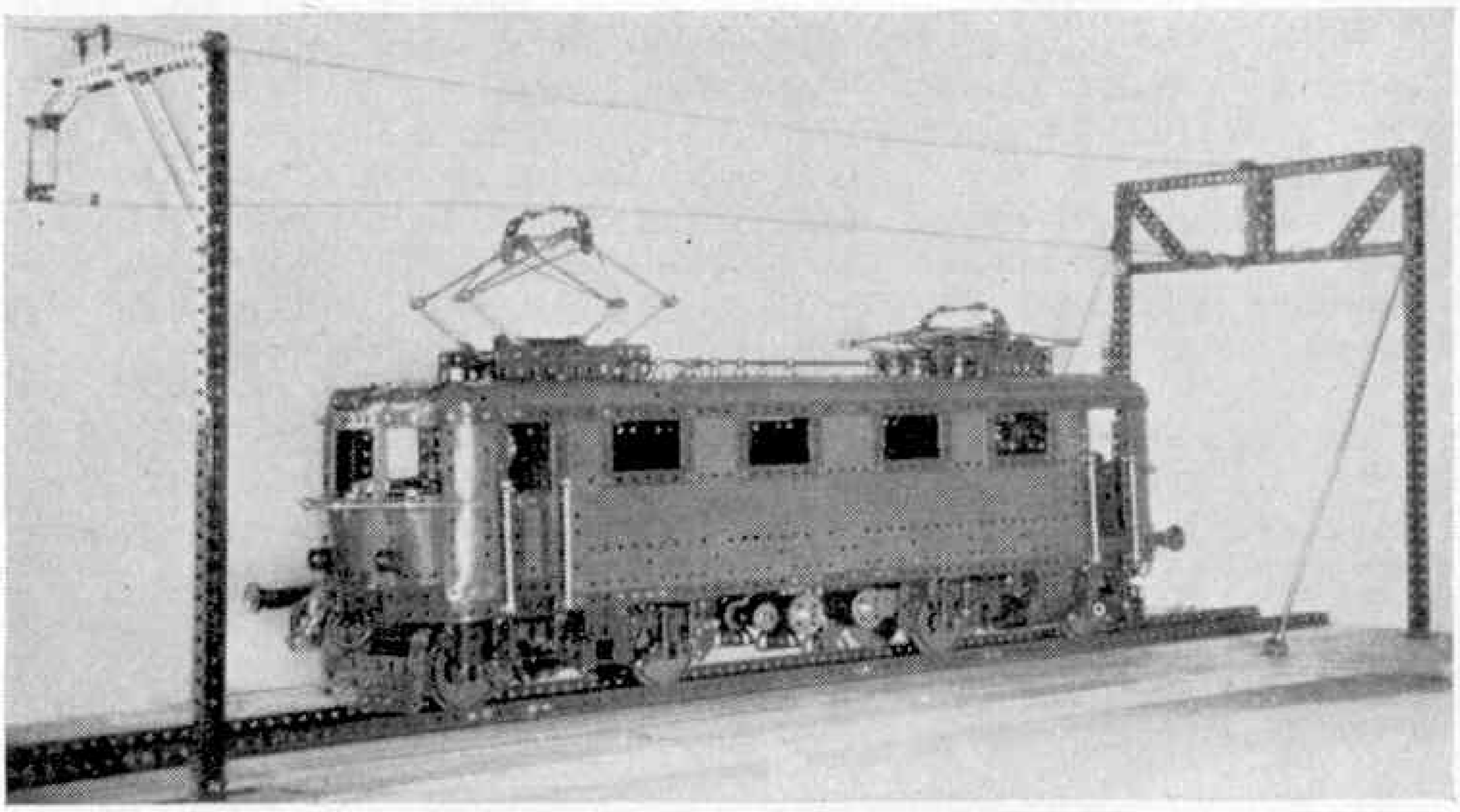
Fig. 3. The agricultural tractor seen from underneath.

Model-Building Competition

Prizes for Meccano Models of All Kinds

THIS month we announce another of the general model-building competitions in which we offer good cash prizes for the most original and best-built Meccano models of any kind sent to us. Every competitor, no matter what his or her age may be, has an equal chance in this Contest, and it does not matter what size of Outfit he possesses.

All that a reader has to do is to think of a new model and then to set to work to construct it as neatly and realistically as possible from standard Meccano parts.



This exceptionally neat and well proportioned model electric locomotive of a type used on the Continent, is the work of Josef Kälen, Freienbach, Switzerland.

When he has completed his model the next thing is to obtain either a photograph or a good sketch of it, and send this to us. *The actual model must not be sent.* If a photograph cannot be obtained, and an entrant is not good at sketching, he can ask a friend to make a sketch of the model for him, provided of course that the model itself is his own work.

The Competition is open to readers of all ages living in any part of the world, and will be divided into two Sections as follows: A, for competitors under 14 years of age; B, for competitors aged 14 years or over. A separate set of prizes as announced in the accompanying panel on this page will be awarded in each Section.

The judges will award the prizes for those models that are the most original in subject, well proportioned and built on correct mechanical principles.

A few notes may be helpful to competitors, especially those who have not entered Magazine contests before. Choose any subject you like for your model, but be careful to select one that you can reproduce realistically with the Outfit you possess. For instance, if you have only a small Outfit it would be difficult to make a really good model of a large crane. If on the other hand you select a truck or windmill, the probability is that you will be able to make a really good job of it. It will also help you on the way to success if you choose a model that "works".

A number of new parts have been added to the Meccano range this year, and perhaps you already possess some of these. If so, you will find them very useful in helping you to make your model thoroughly realistic.

Before posting your entry write your age, name and address on the back of each photograph or drawing. Address the envelope *"September Model-Building Competition, Meccano Ltd., Binns Road, Liverpool 13."* Closing date: 31st December next.

"SEPTEMBER" MODEL-BUILDING CONTEST

THE PRIZES

The following prizes will be awarded in each of the Sections A and B:

First Prize - Cheque for £4 . 4
Second Prize - Cheque for £2 . 2
Third Prize - Cheque for £1 . 1
Five Prizes each of 10/6
Five Prizes each of 5/-

Certificates of Merit also will be awarded.

HORNBY RAILWAY COMPANY

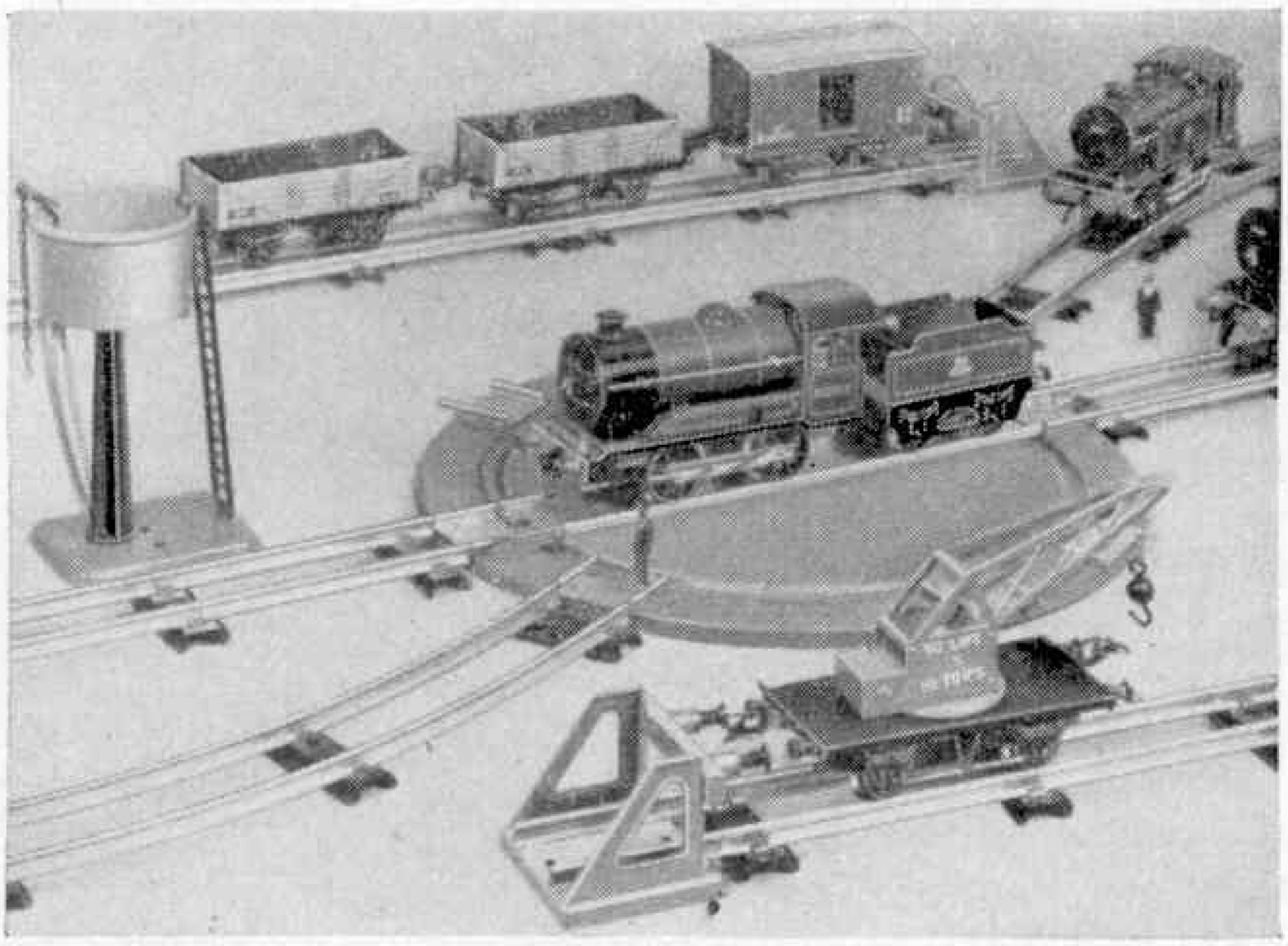
By the Secretary

Fun with a Hornby Turntable

I AM sure that most of you will agree that it is always interesting to see an engine being turned on a turntable. Where the turntable is easily seen from the station platform, or from our usual "observation post," we can spend quite a long time just watching different types of engines in succession getting turned round.

In the Hornby railway world most layout owners aim to add a turntable to their equipment as soon as their lines have developed sufficiently to make this addition worth while. The Hornby Turntable in itself is a simple accessory, but it is one that gives a great deal of enjoyment. Its inclusion in the layout adds wonderfully to the realism and interest of the system.

The Turntable consists of a circular baseplate, in the centre of which is pivoted the piece of special track that actually turns. This does not stretch right across the baseplate because on the edges of the latter there are several short lengths of rail, which allow for the connection of the Turntable track to the rest of the railway system.



The Turntable is the central feature of this yard layout on a Hornby railway. The engine standing on it is a Hornby No. 51 Locomotive and Tender, which together fit nicely on the Turntable.

The exact arrangement of the Turntable in relation to the rest of the track will depend on the individual layout. Sometimes it will be possible for a track to lead across the Turntable, as in the picture here, so that engines can move straight over into the engine yard or siding. In other instances this cannot be arranged, but several radiating tracks can always be provided. To reach any one of these, with the engine standing on the Turntable, the latter is rotated by hand until the revolving track lines up with the road to which the engine is to be directed. There can be no derailments or other mishaps while the engine is running on or off the table itself, as a locking handle is provided to hold the moving section firmly in position against the radiating track.

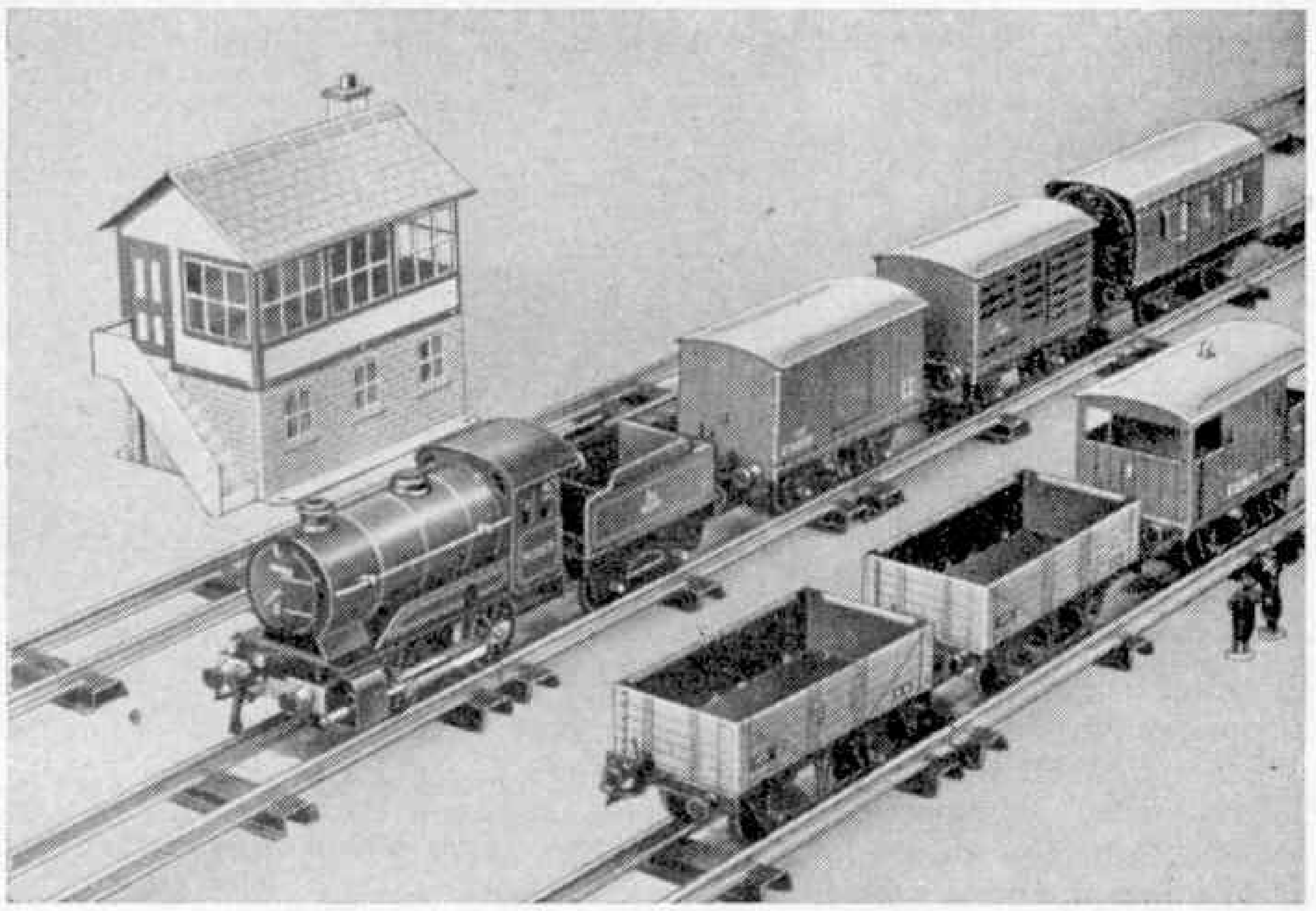
Apart from its use in turning engines round, or for allowing them to reach a particular road in the locomotive yard, the Turntable is just the thing for engine movements only at one end of a plain loop line. As all Hornby railway owners know, standard Right-Hand or Left-Hand Points, PR2 or PL2 respectively, with a standard Curved Rail A2 added to the branch of the Points, form a standard method of constructing one end of a loop. At the other end another Curved Rail A2 can be used. But instead of joining another set of Points, the loop and the track from which it branches out can join up to the standard Hornby Turntable, just as the two roads do that are on the left of the Turntable in our illustration.

This arrangement does not permit a train to run into the loop at one end and out at the other, but it is useful where an engine is required to run round its train, especially where space is limited.

Engine Duties on Hornby Railways

DURING the past month or two you have been able to read in these pages about the various Hornby Train components now finished in B.R. colours. With these more varied and interesting working is possible, particularly on those railways where stock in the older company colours is still in use as well. As most readers know, the keen operator is usually able to work out interesting schemes from observations of real practice; and from ideas developed to suit his own particular interests, apart from what he may read in the *M.M.* and elsewhere.

Engine working is our subject this month. The introduction of B.R. colours has in effect provided the owner with some fine possibilities from the locomotive point of view. It is true that there is still only one Hornby Tank Locomotive, The Hornby No. 40 Locomotive, now of course in B.R. livery, but this is so useful that it is never likely to be idle for long. It is the present-day development of the long-familiar 101 Tank and looks very smart in its black livery, with appropriate lining and the British Railways emblem on the tank side. This is the style of finish adopted for the engines outside the main passenger classes, and those used purely for freight duties.



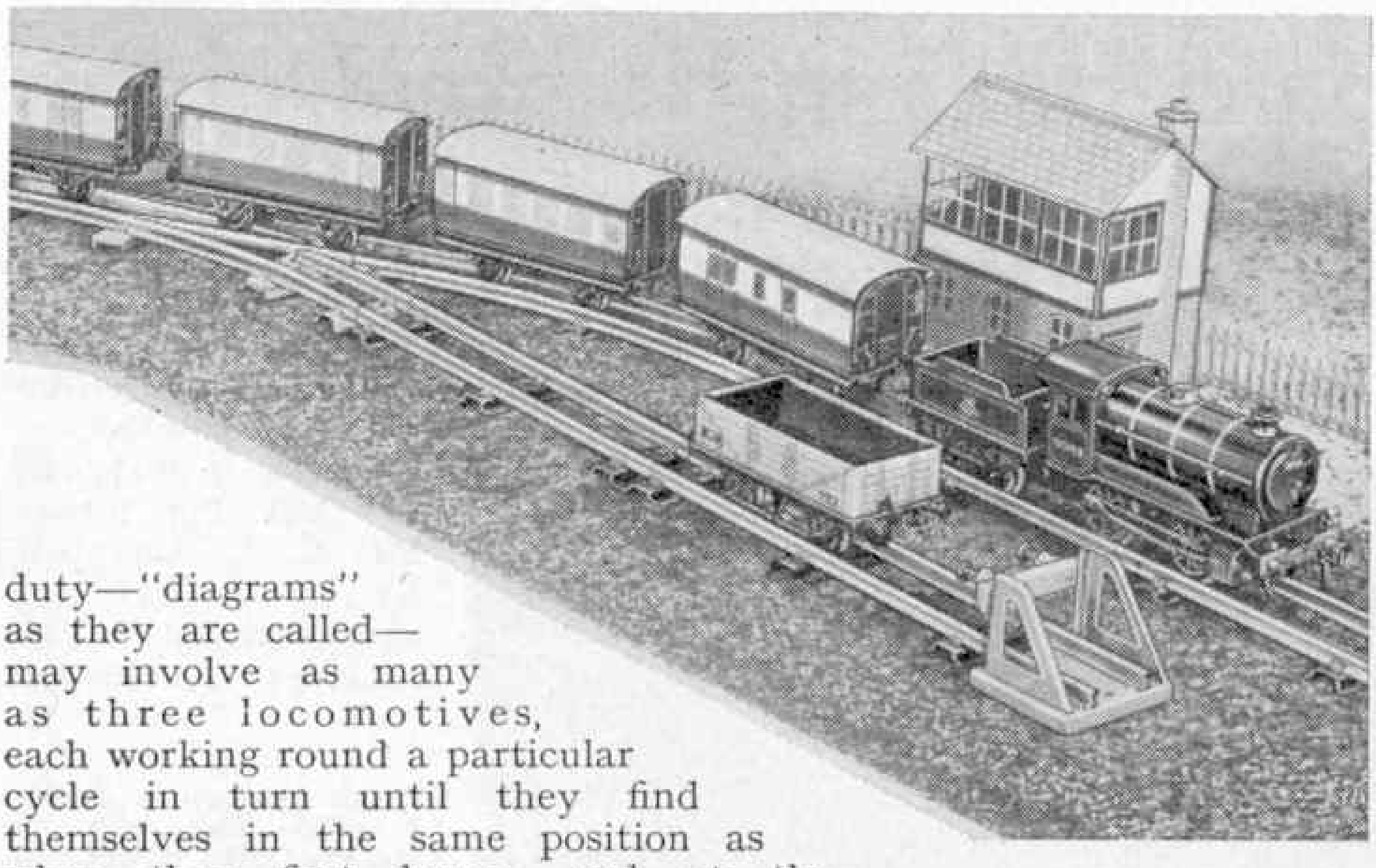
A van train hauled by a No. 50 locomotive in B.R. colours. A standard Goods Van, Milk Van and a Passenger Brake Van compose the train.

The Hornby No. 40 Tank can be used for all sorts of jobs on a Gauge 0 2 ft. radius railway. (Sometimes we are asked whether it can be run on a 1 ft. radius system. This cannot be done efficiently, and to try it only leads to disappointment). It is equally at home with local passenger and goods work, and is specially handy for shunting, empty carriage working and the many duties that form the lot of a real tank engine of medium size.

Reversing mechanism is essential for a tank engine, so that it can work easily both forward and backward. The mechanism of a No. 40 Locomotive is reversed only by hand from the cab, not by means of a track reversing rail. It will be seen that this is more of an advantage than otherwise, because of the varied nature of the movements required of such an engine. There is plenty of "driving" and so plenty of handling of the engine is necessary.

Turning now to tender type engines, the No. 51 Locomotive is specially intended for passenger trains and is of course finished in the B.R. green livery of the principal passenger types. Its counterpart on the freight side, now known as the No. 50 Locomotive, is of similar construction, but it is turned out in the correct lined black of real B.R. engines used for goods working. This engine is specially associated with the Goods Train Set No. 50.

There is no reason at all why a No. 50 and a No. 51 engine on the same railway should not take turns at each others' jobs. This sort of things happens quite regularly in practice today in order to make the best possible use of the locomotive stock. Thus certain locomotive turns of



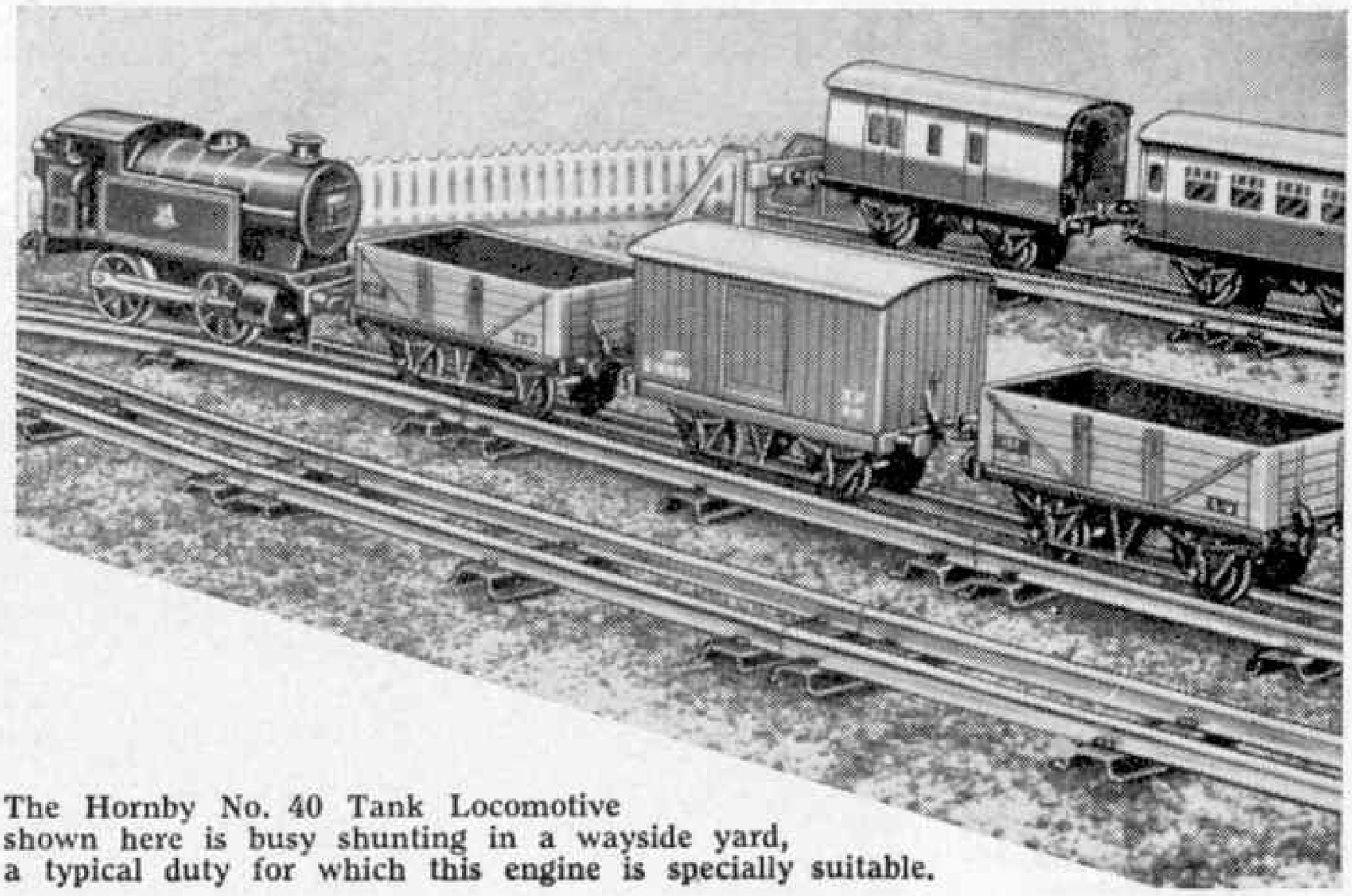
The miniature express train here is made up of Corridor Type No. 50 vehicles in B.R. red and cream livery. A Passenger Brake Van is properly run at each end of the train.

duty—"diagrams" as they are called—may involve as many as three locomotives, each working round a particular cycle in turn until they find themselves in the same position as when they first began, and at the corresponding time. Some trips in the cycle may involve the running of a fast long-distance express, with work on a stopping train sandwiched between them. Then there are the many parcels and van trains for various purposes, the working of which is often bound up with passenger duties.

On a Hornby layout there is not the same pressing need for getting the maximum "mileage" out of an engine as on real railways, but it does add to the variety and interest of train working if we use the different engines now and again for a particular job. Take the trains shown in the upper picture on this page and in that on the opposite page. The first of these is an express passenger of Hornby B.R. No. 51 stock hauled of course by the No. 51 engine. This could quite appropriately have been taken by the No. 50 type locomotive that appears at the head of a van train on page 448. Similarly the passenger engine actually seen there could quite reasonably have been used on the van train.

Sometimes such an arrangement may help to work an engine back where it is wanted instead of having to run it round on its own. In miniature, light engines always look a bit "lost" somehow and if there is much working of this kind a visitor, who may not appreciate the ins and outs of miniature railway working, may be critical.

For an alternative way of getting an engine "home" we can borrow from real practice and couple the engine to that of a convenient train working in that direction. Such double-heading with clockwork locomotives allows a really good load to be taken, especially if we have together two engines with similar mechanisms.

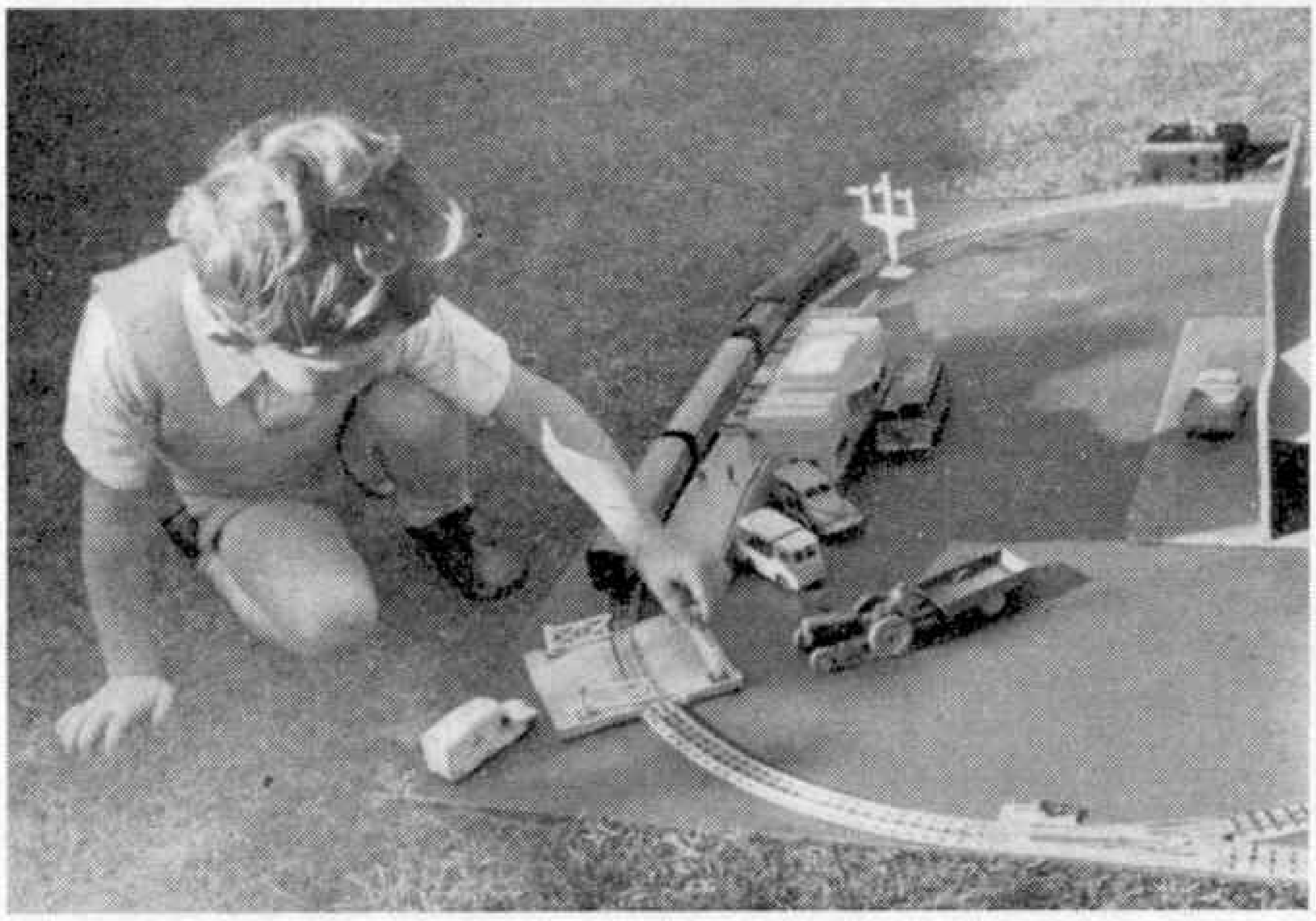


The Hornby No. 40 Tank Locomotive shown here is busy shunting in a wayside yard, a typical duty for which this engine is specially suitable.

Baseboard Hints in Hornby-Dublo

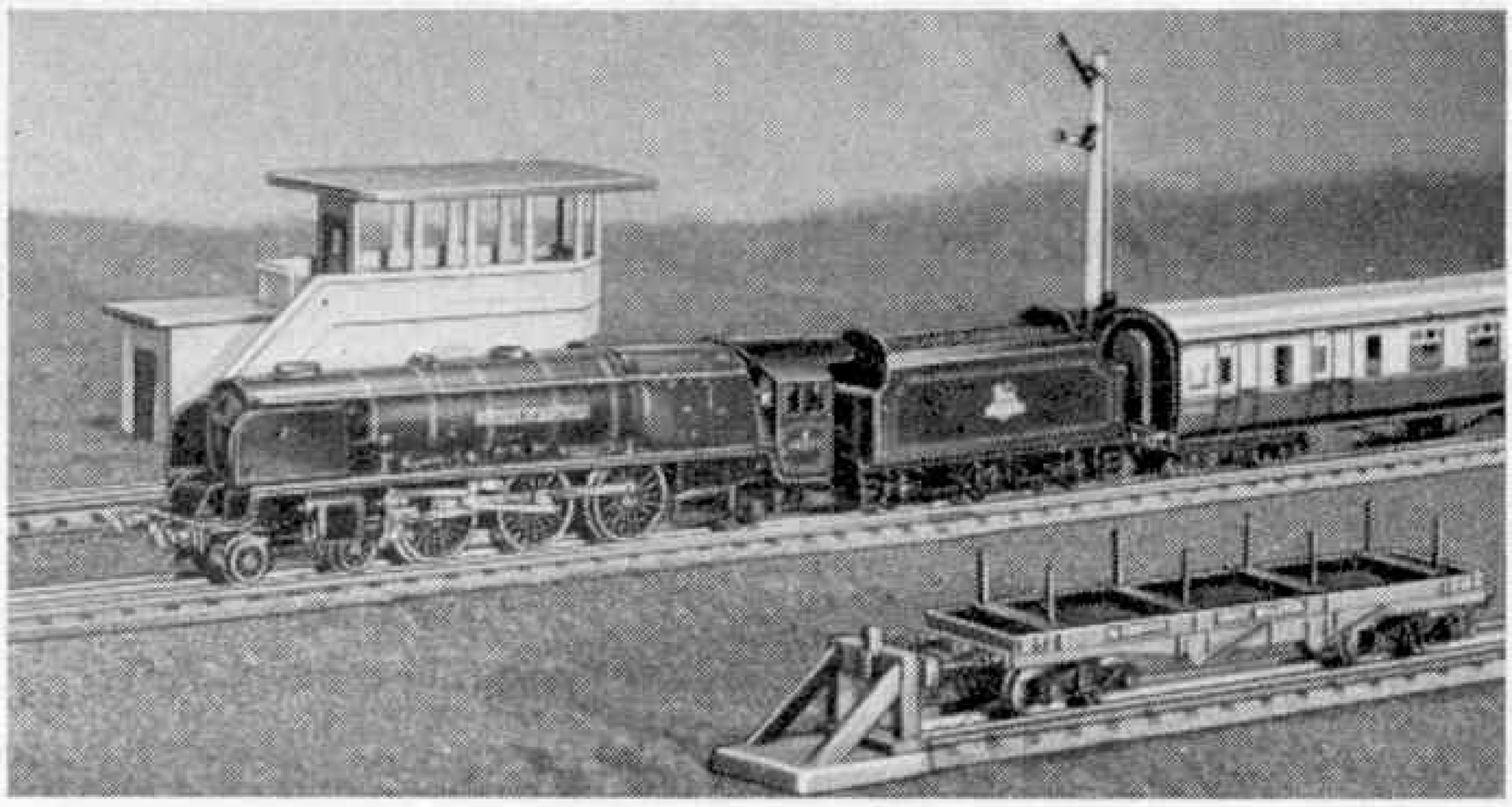
IN their earliest days Hornby-Dublo layouts usually are placed on a table, or even on the floor. But things soon develop beyond the elementary stage, especially when the owner begins to harbour ideas for the improvement of the line and for the building up of the surroundings of his railway. After some experience of trying to put these ideas into practice in the original position of the layout, a move is usually made to give the layout a more settled home, perhaps on a baseboard of some kind. This allows the railway, with the accompanying buildings and other features, to be kept together as a whole.

If a board is used, and is not too large, the railway can readily be used indoors on the table or the floor, in one room or another, or even outdoors if the weather is favourable. Two of the accompanying illustrations show one particularly happy result of this kind of thing for a youthful Hornby-Dublo enthusiast, Derek Chappell, is obviously enjoying himself greatly in the garden with his railway.



Derek Chappell is having a good time with his Hornby-Dublo layout. He is busy with the crossing gates in order to allow the waiting Dinky Toys Ambulance to cross the track.

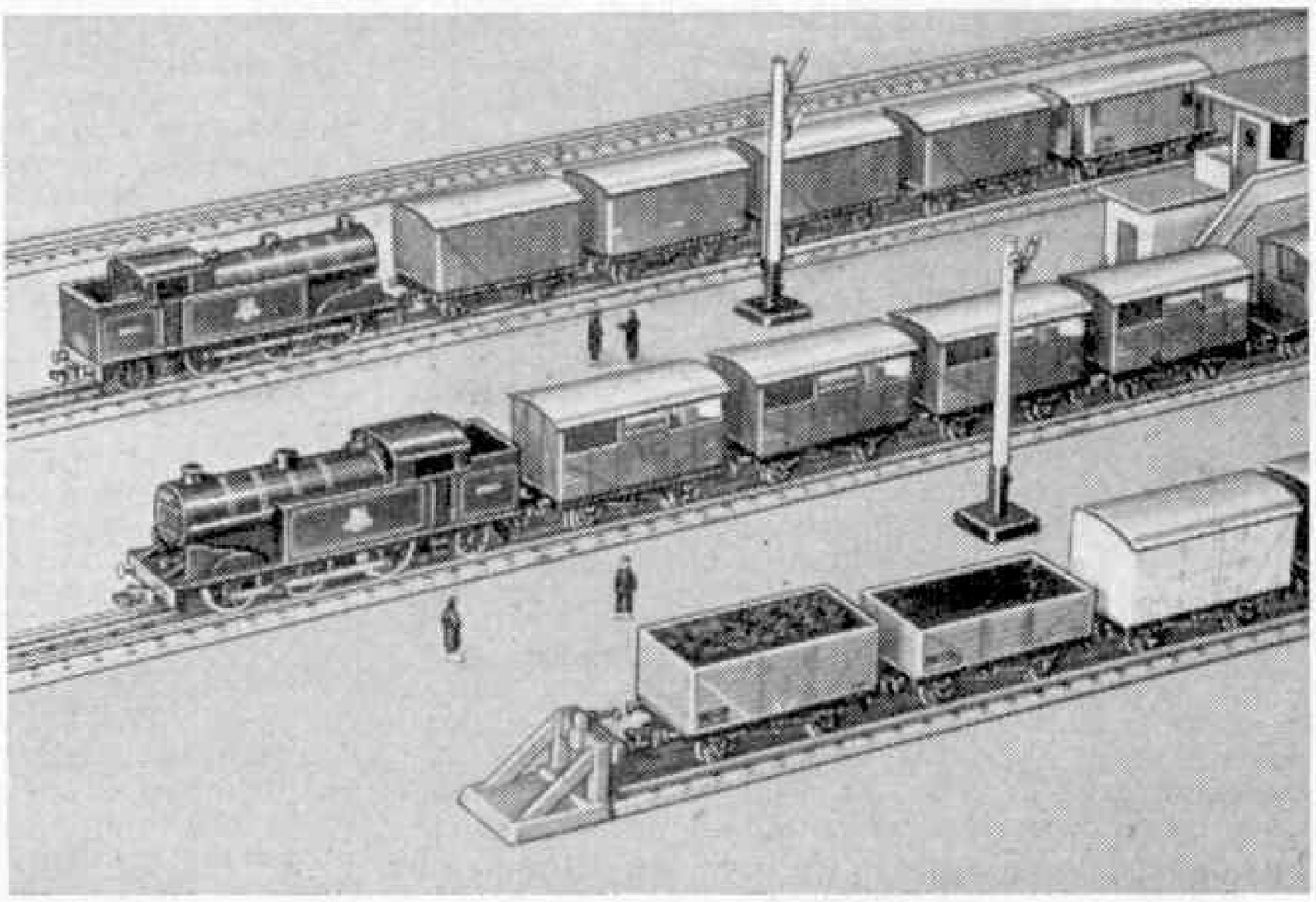
Derek is fortunate in that his father, Mr. C. L. Chappell, helps him enthusiastically in his schemes. To this can be attributed the construction of the board itself and such things as the fine garage building, styled *Derek's Garage*, on the opposite side of the "road" from the Hornby-Dublo Through Station. It is quite obvious that this owner really does "play" with his trains and his Dinky Toys, for in the pictures shown he is busy working the gates of his level crossing—another home-made item—in order to allow road vehicles to cross the line after his train, hauled by the *Duchess of Atholl*, has passed into the station. These may seem to be



"Duchess of Montrose" speeds past the Signal Cabin with a Hornby-Dublo express.

quite simple operations. But don't forget that they are just the ordinary day-to-day operations of railway working, perhaps often repeated but never losing their fascination.

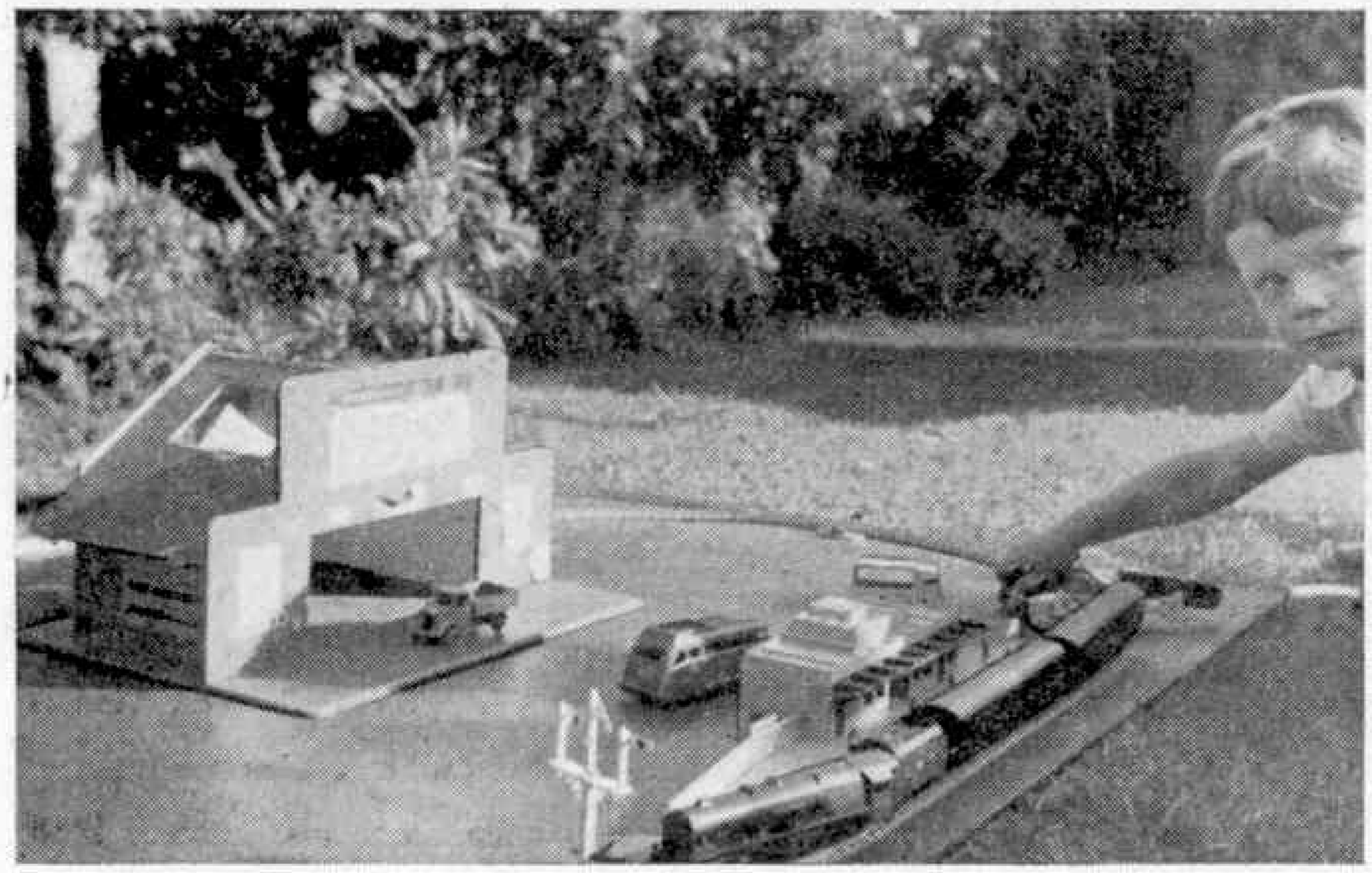
The connections from the Controller to the Transformer and to the track respectively are arranged in an interesting manner on Derek's layout. The mains lead to the Transformer has the usual three-pin plug. The connecting wires between the Terminal Rail, Controller and Transformer are permanently fixed to their respective terminals, but they are cut in between and fitted with plug and socket connections. That from the Controller to the track has a key way, so that it can fit one way only—the right way—and thus the supply to the track is always correct in relation to the setting of the Controller handle for forward or reverse working. It only takes a few seconds to connect up the whole electrical supply by means of the plugs and sockets. The scheme is a particularly convenient one, especially for youthful Hornby Dublo owners, and its use also saves much time and trouble.



Variety in van trains is provided by the two formations shown here, each behind its respective engine ready for departure.

Sometimes we are asked about the make-up of a railway baseboard of this kind. Nowadays there are various composition and other boards about that are excellent for the purpose, and where the individual owner has no special preference he will probably just get whatever material can be obtained readily in his district. I will only add that most Hornby-Dublo owners agree that ordinary plywood is not very satisfactory. It can have a wavy surface, even when it is strengthened by battens underneath, and it tends to be noisy when trains are running on the track.

Stiffening battens are essential, whatever the material selected, otherwise the board will not stand handling very well with the track mounted on it. Their use also raises the board above normal ground or table level and so provides convenient space for wiring under it. It is always an advantage to have all the wiring nicely and safely tucked away.



Derek Chappell shows us his Station, near which is the garage used for servicing his Dinky Toys motor vehicles.

Club and Branch News

WITH THE SECRETARY

LOOKING AHEAD

Although the present Summer Session has still some weeks to run, Club Leaders and Branch Chairmen already will be thinking about the coming Winter season to make sure of a good start on well-planned lines. Meccano model-building and Hornby Train operations will continue to be the "backbone" of their respective programmes, of course, but other activities should be included so as to have a nicely varied and balanced programme. Above all, do not forget to take the wishes of members into account, discussing the programme with them at a special meeting early this month and then deciding by majority vote what other hobbies and pastimes to include in it. Officers for the year should be elected at this meeting.

In this connection I recommend to Leaders and Chairmen in search of new ideas for games and party evenings, a book just published entitled *The Youth Club Book of Recreation*. It contains a wealth of entertaining suggestions for such occasions, and is reviewed on page 423 of this issue.

A FORTHCOMING CLUB AND BRANCH EXHIBITION

The Mile End (Portsmouth) M.C. and H.R.C. Branch will hold a joint Exhibition on Wednesday, 22nd September in the Buckland Congregational Church, Kingston Road (corner of Queens Road), Buckland, Portsmouth. The Exhibition will be opened at 5 p.m. Admission: Adults, 6d.; Children, 3d. There will be an excellent display of Meccano models and an extensive working Hornby-Dublo layout, together with the Model Town often mentioned in their reports on this page.

CLUB NOTES

LAUNCESTON M.C.—The aeromodelling section have been busy constructing gliders. A recent outdoor meeting was devoted to model aircraft flying and model car racing. Interesting talks have included one on *Photography* given by Mr. Bawden, the Assistant Leader, and one on *Tools* by Mr. Roberts, a good friend of the Club. A competition for the best-built Meccano crane was won by an electrically operated model capable of lifting a weight of 14 lbs. Several members have taken part in a table tennis tournament. Club roll: 42. *Secretary:* R. J. Keast, "Lytham," Dunheved Road, Launceston.

AUSTRALIA

MAYLANDS M.C.—There was an excellent attendance of members, parents and friends at the Annual Presentation Night, when Guild Merit Medallions and Club model-building certificates were awarded. The first film show of the Session included some very popular sports films, and a tuckshop conducted during this programme added 6/- to Club funds. Members have been busy constructing models for display at a combined Fête and Exhibition to be held in Maylands Town Hall on 11th September. Club roll: 41. *Secretary:* B. Lee, 16 Kennedy Street, Maylands, Western Australia.

SOUTH AFRICA

CAPE PENINSULA M.C.—The Cape Town Round Table No. 9 have invited the Club to take part, with other hobby societies, in an Exhibition they are organising. The Club committee have decided to divide the members into groups of about four boys each, and each group will build a model for the Exhibition. The Leader has purchased from Overseas some electric motors of a type used in aircraft, and has built a special transformer for these which is serviceable up to 35 v. Club roll: 27. *Secretary:* Mr. M. Adler, 10 Lisdale, Beach Road, Sea Point, South Africa.

BRANCH NEWS

AVIARY MODEL RAILWAY CLUB (LEEDS)—In spite of the handicap of at present being without a Branch room, interesting track meetings have been maintained by dividing the members into two groups, one of which meets at the Chairman's house and the other at the home of the Secretary. A new Branch room is urgently needed, and the Secretary will be glad to hear of any likely accommodation. *Secretary:* Mr. L. Blakey, 21 Arley Street, Armley, Leeds 12.

NEW ZEALAND

HASTINGS—Members are now happily established in new and more comfortable quarters. Recent activities have included several cycle rides and a hike to the Cape Kidnappers Gannet Sanctuary. At present two track nights are held each week, and it is hoped to increase the number eventually. A Branch magazine has been started. *Secretary:* Ian Mison, 705 Tamatea Street, Hastings, New Zealand.

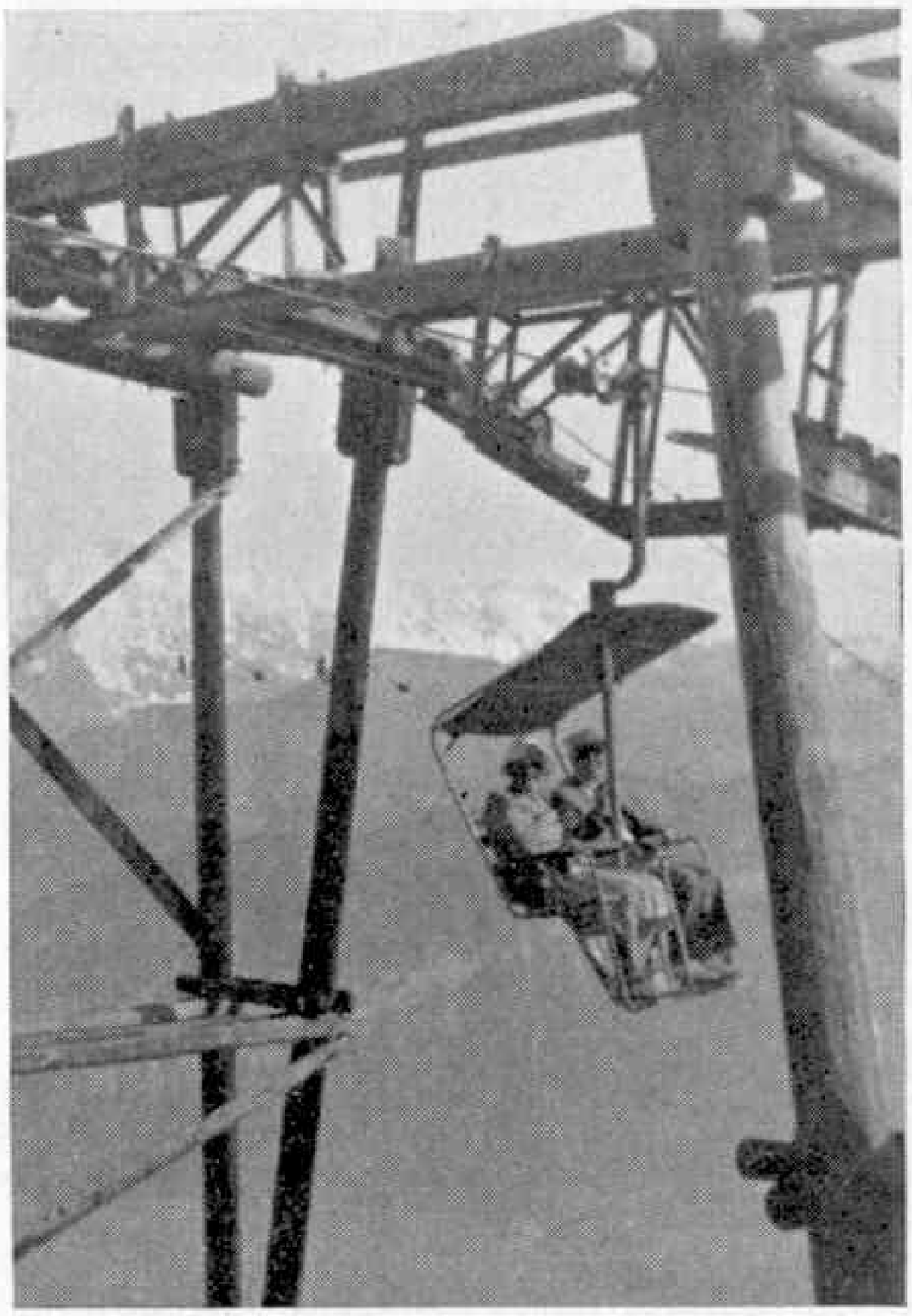
Officials and members of The Copdock and Washbrook M.C., with the Rev. P. Welsby, Leader, in the left background and K. E. Whitten, Secretary, in the wheeled chair. This enthusiastic Club was affiliated with the Meccano Guild in November 1953, and its varied programme includes both Meccano model-building and Hornby-Dublo operations.

From Our Readers

This page is reserved for articles from our readers. Contributions not exceeding 500 words in length are invited on any subject of which the writer has special knowledge or experience. These should be written neatly on one side of the paper only, and should be accompanied if possible by original photographs for use as illustrations. Articles published will be paid for. Statements in articles submitted are accepted as being sent in good faith, but the Editor takes no responsibility for their accuracy.

THE NIEDERHORN CHAIR-LIFT

Last August my wife and I were staying at Interlaken in Switzerland. One afternoon we went to the Niederhorn, a peak rising from the shores of Lake Thun. After a short steamer trip, a journey up a mountain railway, and a walk we reached the wooden shed from which the Niederhorn chair-lift started.



Ascending the Niederhorn, on the shore of Lake Thun, Switzerland, by chair-lift.

Rather dubiously we watched the sets of chairs sailing out of the shed thirty or forty feet above our heads, while a similar line of chairs descended from the summit. We showed our tickets, and entered the shed just in time to see crates of drinks being loaded for the cafe at the top of the mountain. A twin chair was removed and replaced by a strong platform on which the crates were stacked. A sack of letters and a newspaper were put on the crates—it was a windless day—then a quick push and the load was on its way.

We were the next to go. We sat down, the attendants snapped wooden bars down across the fronts of our chairs and we were off. It was exhilarating to sail along high above the ground. We could see across Lake Thun far below, and for great distances beyond. The silence was uncanny; the only noise being a gentle chatter as the chair bumped slightly when it passed over the supporting points where the cable was held up by stout wooden posts.

All the way up we were able to gaze over wonderful scenery, and at the top further beautiful views opened up on the other side of the mountain. After an hour or so we descended by the chair-lift, and returned by bus to Interlaken—round a series of frightening hair-pin bends!

J. C. GEATER (Rochester).

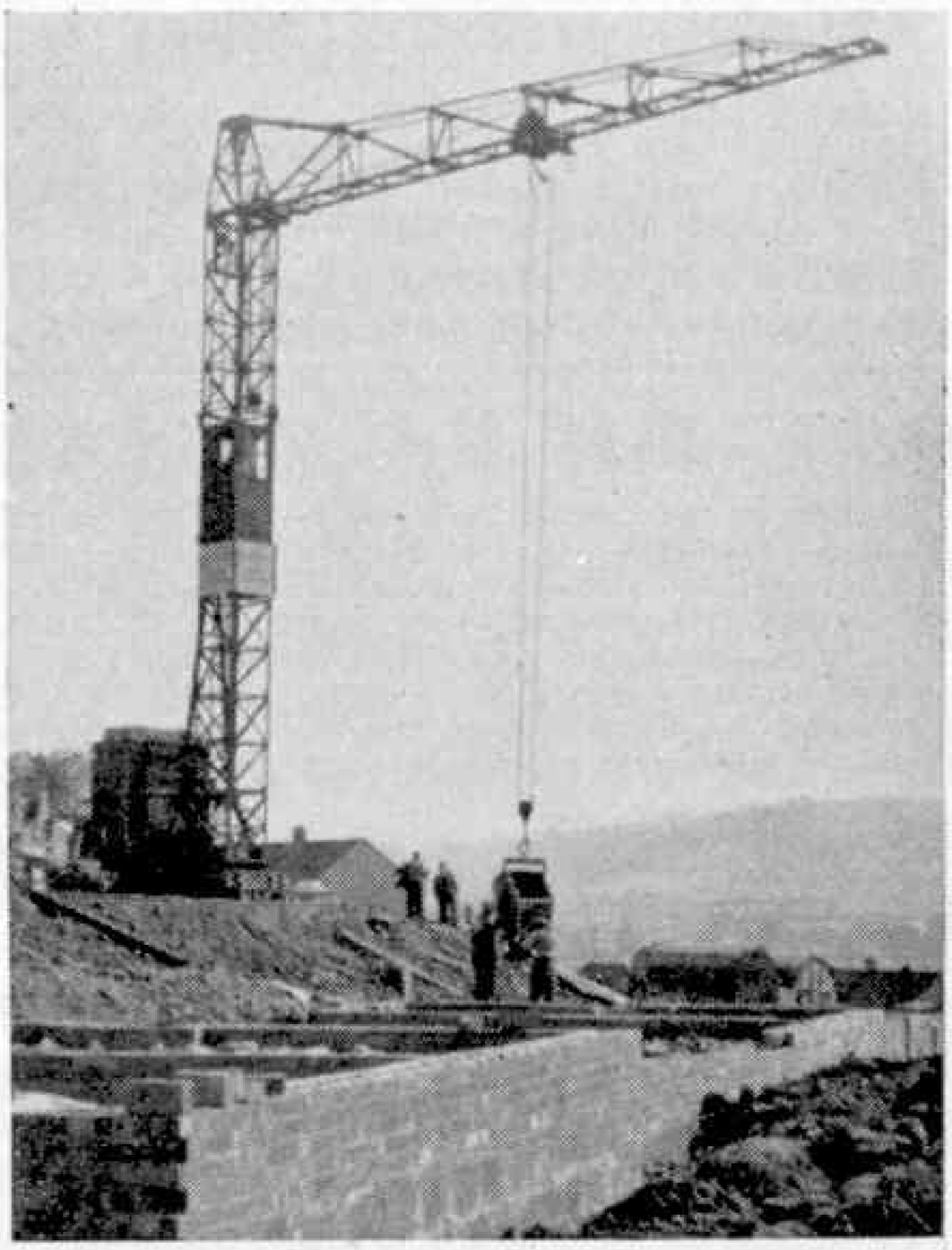
A TOWER CRANE

I have recently been greatly interested in an experimental tower crane that has been operated by Wakefield Ltd., Bath and Bristol, at Catherine Way, Batheaston, where 160 traditional houses are under construction for the Bathavon Rural District Council. It was hoped to save about £100 per house by using this crane to carry to the bricklayers and other workers the materials they use exactly where they need them.

The machine is of French design and construction and is 140 ft. high, with a 40 ft. jib traversed by a gantry. There are a number of attachments for handling the various loads. These include scoops, a concrete hopper, pallets with metal cage covers for bricks and scissor grabs. A special rail track has been laid on which the crane can travel along the site, and electric power for the whole outfit is obtained through a trailing cable from mains junction boxes set up at intervals.

The tower crane had been put at the disposal of the contractors by the Building Research Station, whose representatives are assessing its value for application to other building sites.

P. R. FORSEY (Bath).



A tower crane introduced to speed up building work and make it easier. Photograph by P. R. Forsey, Bath.

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For other Stamp Advertisements see also pages 456 and xx.

Stamp Collectors' Corner

By F. E. Metcalfe

ISLANDS—HONG KONG AND NAURU

GREAT BRITAIN has always been a great and successful collector of islands. It is true that we may have lost some lately, but we still have quite a few, and as so many of them are busy bringing out their new sets of Queen Elizabeth stamps, perhaps we might write about two of them this month.

Hong Kong stamps have always been particularly popular. The first set was issued as long ago as 1862, but the design of the latest issue, which appeared on 5th January, is the same except for the portrait. Most collectors were very pleased to see that this simple ninety year old design was being retained.

Many of the early stamps of Hong Kong are quite beyond the pockets of most of us. Among them are expensive shades, and the surcharged stamps that did service until the present century. In 1903 stamps bearing a portrait of King Edward VII replaced those of Queen Victoria. Used stamps of many of these issues are fairly common, but nicely cancelled copies are not easy to come by. Stamps of King George V first appeared in 1912, and Hong Kong joined in the Silver Jubilee issue in 1935 with the usual three stamps, while in 1937 we got the three KG VI Coronation stamps.

In 1938 there came a complete reversion to the original design. Again there were shades galore, and some real good ones are to be found in the Commonwealth Catalogue. The set had not been on sale very long when the war broke out. With Hong Kong in the hands of the Japs, new supplies of its stamps could not be obtained, and what few sets were available brought about £10 each here at home. Then the war ended, and we moved back to find that the stamps held in the post office when we cleared out had been looted. To prevent these from being used for postage, the colours of the high values were changed, but the stamps which had been obtained by illicit means have crept gradually into dealers' stocks, and so many were there of some of the values that they are barely worth face value.

When the dollar values of this KG VI issue were first placed on sale they were printed on chalk-coated paper, but during the war the printers —Messrs. De La Rue—used a paper that lacked this coating and is known to collectors as substitute paper, or "sub," to use the popular contraction. When the colours were changed in 1946, this "sub" paper was employed, but in subsequent printings we once more got the chalk-coated type.

Collectors very carefully separate the two classes. An easy way of telling which is which is to get an old silver coin—it must be old, for those which we use nowadays contain little or no silver—or a silver pin. Rub this lightly on the stamps, and if it is chalk-coated, a pencil-like mark will be produced. This in turn can be removed by a bit of rubber. If however the paper is sub, then no mark will be made on its surface by the coin or pin.

In 1941 a set of five values was issued to commemorate the century of British occupation of the colony. The next commemorative stamps appeared in 1946, to celebrate victory. Hong Kong went in for a special design, one that had been conceived by a prisoner of war. It has a real Chinese flavour. Apart from a good likeness of King George VI, we see Phœnix rising from the flames.

Commemorative sets for the Silver Wedding, the 75th Anniversary of Universal Postal Union, and the "QE" Coronation single complete the picture of the stamps of Hong Kong, which are to be recommended to all who like to tackle a tough philatelic proposition. But the average collector must take care to take only good copies, and these are anything but plentiful.

And now we come to Nauru. This is a possession which has only been part of the Commonwealth since 1915, as it was taken from the Germans at the outbreak of what is known as the First World War. Stamps of Great Britain up to 10/- were merely overprinted Nauru, but several of them, values ½d., 1d., 2d., 2½d., 3d., 4d., 5d. and 6d., had a very interesting error, for the overprint read NAUP.U. These sell for about £5 each, so keep a lookout.

The first definitive set appeared in 1924. These stamps were printed on paper that was never particularly smooth and has developed a certain roughness, in considerable contrast to the paper used from 1937. Collectors of KG VI stamps include the latter in their collections, and there are two really outstanding shades of the 2½d. and 3d. values. There is brightness about the later printings that make them very easy to distinguish. The 2½d. value also has the paper toned blue. For those interested, it can be mentioned that the steamer depicted on this set is the s.s. *Century*.

Several of the values have now been replaced by nine stamps printed in Australia, and it must be admitted that they are a great improvement on anything that Nauru has previously had. The old ship design made the island look a very dreary place, but the new stamps make the best of what is going. For instance the Buada Lagoon on the 2/6 value looks very seductive, and the frigate bird on the 4d. stamp will make more than a few long for a trip to those far off places where such birds can be seen.

The value that Nauru has to us is its wealth of phosphate deposits. A steamer loading this product is shown on the 3½d. value. Altogether it is a grand set, and when completed—other values are to follow—it may increase the philatelic popularity of Nauru.

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For other Stamp Advertisements see also pages 454 and xx.

Stamp Gossip

FOOTBALL IN SUMMER

THERE are many people who love football so much that they would not mind in the least if it were played all the year round. They were quite pleased when June was fixed for the World Championship, and Switzerland, as the hosts of the competition, did not let the opportunity pass without a philatelic acknowledgment. A really delightful stamp was issued. Actually it was part of a Publicity Issue of four stamps. One was to commemorate the Agricultural Exhibition of Lucerne; another the Cookery Exhibition of Berne; a third the 50th Anniversary of Navigation on the River Rhine; and the fourth was our football stamp, illustrated here.

OUR OWN COLONIAL STAMPS

I mentioned in previous notes that a catalogue specially devoted to the stamps of our present Queen Elizabeth was to be published. Collectors will be interested to know that this publication was a great success, for orders came from all over the world. The Queen's visits to so many countries in the Commonwealth has had a lot to do with the popularity of her stamps. In time they will probably become as popular as those of the late King George VI, for whose stamps there is also a special Commonwealth Catalogue, of which a new edition will appear in the late autumn.

The stamps of our sister countries are making a mark among collectors, and beginners will be very wise if they consider taking them up.

SPECIMENS AND VARIED PERFS.

Recently a collector sent a stamp with the word *Specimen* printed on the front, with a query as to how come, to use his own expression. Well, countries that are members of the Universal Postal Union undertake to supply other countries with examples of all the stamps they issue. Most make a practice of either printing the word *specimen* or perforating the stamps. Spanish-speaking countries use their word *Muestra*, which means the same thing.

Some of these stamps get on to the market. "Specimen" stamps are generally original printings, and these are now very much sought after.

Other collectors want to know what is meant by "varied perfs." in connection with certain Australian stamps. These are in connection with coils or rolls of stamps, used in Australia for machines. If you take a vertical pair of these stamps, and examine the horizontal perforation between the two, it will be noticed that the two or three holes in the middle are larger than those at each side. No doubt this is done to facilitate the tearing off of a stamp, as one juts out of the machine.

Sometimes these are described as coil perfs. but the name "varied perfs." is better, as there are coils not perforated in this manner.

A NICE GIFT

When the Queen was recently in Australia, the Australian Postmaster General presented her with an album of Australian postage stamps, and details are now to hand about the make-up of the gift. They provide interesting reading. The album was designed, and made up where the Australian stamps are printed. The cover was made of—well, I'll give you one guess. Why, of course, kangaroo hide. The pages were burnished with real gold, and they housed one of every stamp that has been issued since the introduction of general postage stamps for this member of the Commonwealth, in 1913.

A master craftsman in the Post Office designed a cabinet to hold the album, and this was made from jarrah wood from Western Australia. The cabinet was lined with more kangaroo hide, in ivory colour.

MARIAN YEAR

I must admit to a weakness for Irish stamps—or should I say Eire stamps—perhaps because Ireland does not set out to exploit collectors. In the past there have been critics of Eire designs, but the pair of stamps, 3d. and 5d., issued in honour of the Marian Year are really superb. The design is based on the La Robbia Madonna and Child, of the Crypt of San Gaetana, Florence, Italy. Isn't it a beauty?

Alas, I am afraid that the second Eire commemorative set is not quite so successful as far as the design is concerned. This is the pair issued on 19th July to commemorate the centenary of the opening of the Catholic University of Ireland under the rectorship of Cardinal Newman, who was then Dr. John Henry Newman. Some disappointment has been expressed about the stamps themselves, 2d. purple and 1/3 deep blue. It is probable that the "Newman" issue had to be done in a hurry, but speaking personally, I like the set. The design is exceedingly apt for a small stamp, the colours are good, and above all the event commemorated is a worthy one.

BLACK SWANS

What with the missing black swan of Sir Winston Churchill, and the stamp issued in Australia to commemorate the centenary of the first Western Australian stamp, these handsome birds seem well in the news. Like Ireland, Australia does well by collectors. They issue from time to time attractive commemorative stamps of low face value, which are readily obtainable, and never do they try to gipp collectors with artificially restricted issues.

Towing a Great Liner—(*Continued from page 417*)

kept in position by *Fighting Cock*—and to push her slowly into the Stage so that she would lie nicely alongside.

By this time the gig-boat men had run out their frail craft, coming what seemed to me dangerously close to the stem of the *Cheshire*, to pick up the shore line with a boat hook. This was deftly secured and carried swiftly to the Landing Stage itself. There it was pulled ashore and the bight at its end was looped round a bollard. The slack was then taken up by a winch on the foredeck of the *Cheshire* and so the forward end of the vessel was secured. More lines were run out in order to make sure that the vessel would be firmly berthed. In the meantime *Storm Cock* had nosed the *Cheshire* so far in so that more lines could be heaved out from her stern, and in a trice the vessel was secured.

Our task was over. One of the *Cheshire's* derricks was now lifting the end of the gangway on the Stage, so that it could be pushed across, ready for embarking her passengers, and the tow line was taken in. The liner had been brought to her berth easily and swiftly by men who knew every detail of the tasks they were called upon to do.

A lovely, clean piece of work, carried out of course in good weather, with a quiet river. But while watching the final stages I remembered seeing tugs at work in storm and wind, with a heavy tide sweeping turbulently up the river, and I realised then that the skill and experience their captains and crews had acquired was often put to much sterner tests, and never failed.

The Darings—(*Continued from page 425*)

fleet. So we may find the Darings accompanying carrier forces and protecting these vulnerable craft while their aircraft are flown off or cannot be operated owing to weather conditions.

A significant fact is that even in peacetime the Darings will probably not operate in squadrons, but will be more detached than is usual for a destroyer, though of course they are classified as "Daring Class Ships" and not as destroyers. Another way in which they might be employed is on special missions where fast well armed vessels are required, as the "Manxman" class of fast minelayers were used in the last war, when they supplied Malta in the siege. No doubt the *Daring* and her sister ships will be used for many and various jobs, and it will be surprising if they do not prove highly successful in service under all conditions and on all types of work.

Photography with Modest Kit—

(*Continued from page 440*)

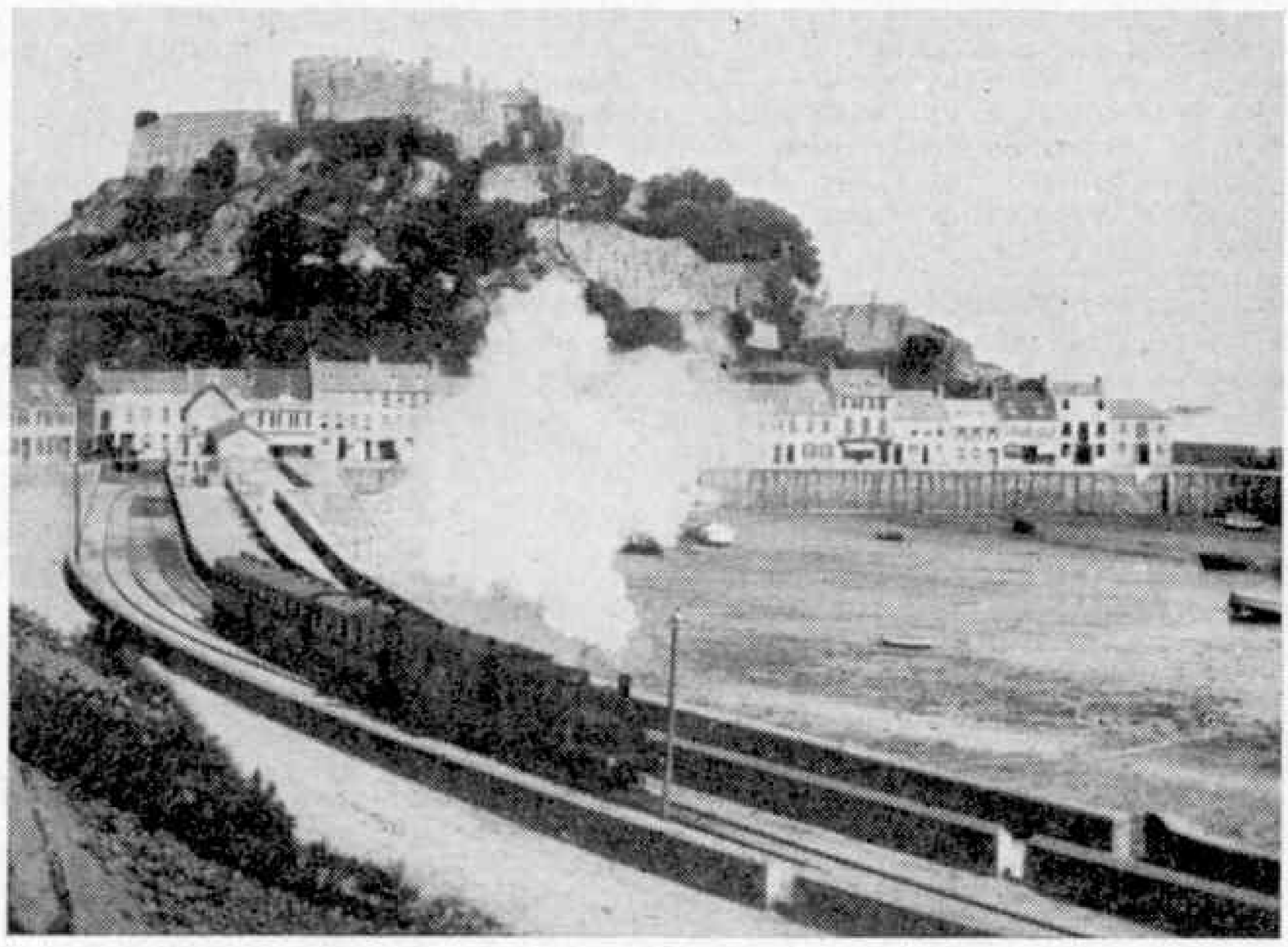
end we rigged up a home-made synchroniser that would depress the cable-release knob and set off the flash-bulbs at one and the same instant. A few hours before we went into action we set the camera outside the hide, focussed on a spot over which Brock habitually passed. The flash-bulbs we hung on branches in convenient positions. If all went well, there would be just sufficient light for us to see when Brock was in the correct spot for us to press home the synchroniser switch.

Almost to the minute, we heard a faint scuffle. Peering through the observation holes of our hide we were amazed to see not one, but *four* badgers—mother, father and two cubs. And for a few seconds they remained grouped just where we wanted them!

Over went the switch. There was no blinding flash, no click of the shutter. Only the sound of Brock and his family scrambling away up the bank. The battery in the switch-box was a dud!

We got Brock's picture later, as you can see on page 440, but I don't suppose we shall ever get such a scoop picture as the one we missed. Not even with one of those "super" cameras!

One of these days, perhaps, you and I will be operating cameras bristling with refinements of one sort or another, but in the meantime, let's try and get the best out of the humble models we do possess. They offer more scope than many people imagine.



This was the view 25 years ago of the scene shown in the picture on page 411. The train has now given way to the motor bus. This photograph was taken by Mr. A. H. Cabeldu, Jersey, and that on the Editorial page by his son, Malcolm.

This Month's Special Articles

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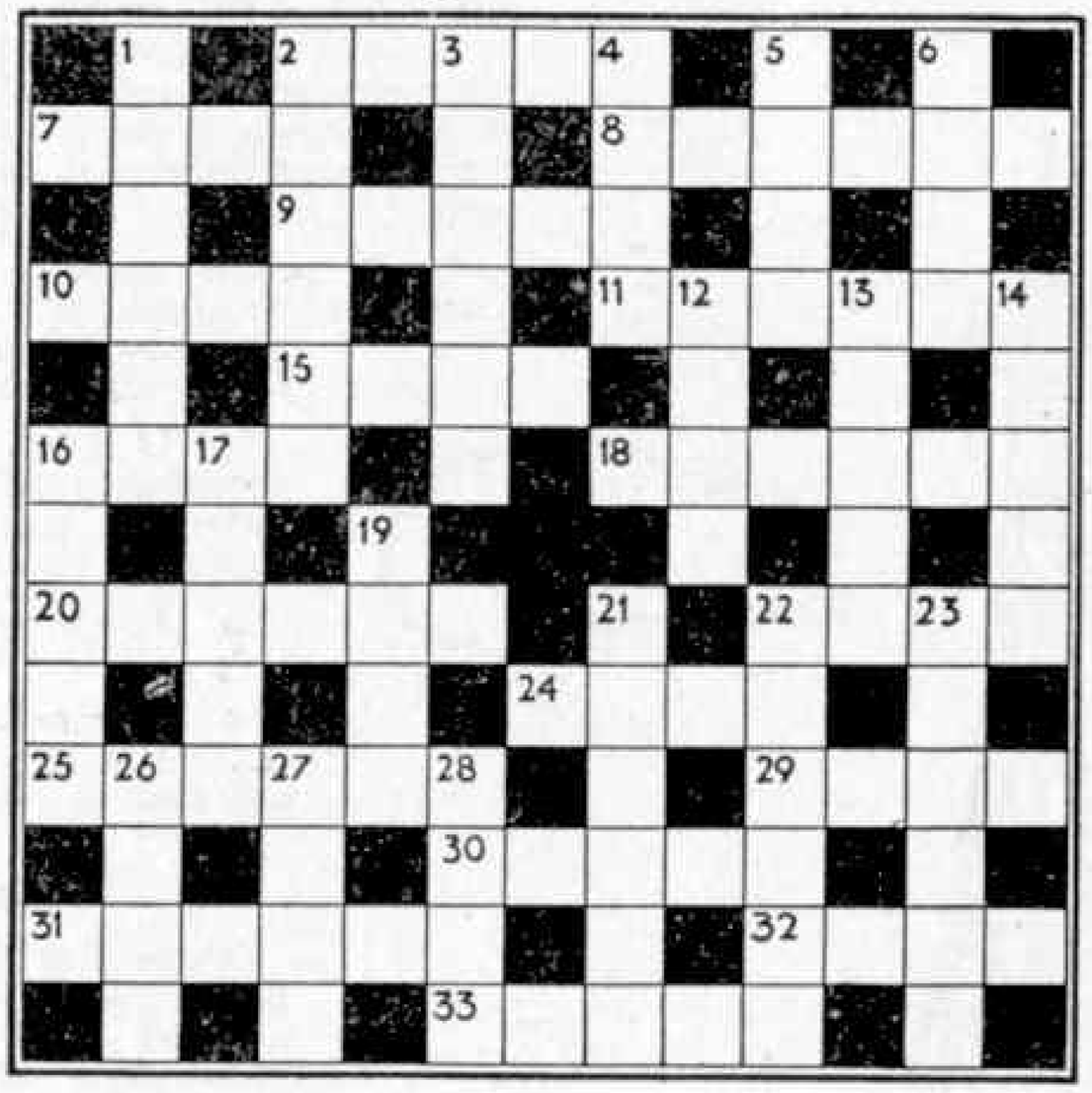
Competitions! Open To All Readers

Prize-winning entries in M.M. competitions become the property of Meccano Ltd. Unsuccessful entries in photographic, drawing and similar contests will be returned if suitable stamped addressed envelopes or wrappers are enclosed with them.

An Interesting Crossword Puzzle



CLUES ACROSS

2. Race course
7. Not that
8. Farmer
9. Pleasant to taste
10. Island
11. Steep slope
15. Term in trigonometry
16. Egyptian goddess
18. Open carriage
20. Hush hush
22. Cot
24. Type of cycle
25. To be kept in sight
29. Thick cord
30. Prefers walking
31. Halo
32. Roguish
33. Spiral turn

CLUES DOWN

1. Essay
2. Sum up
3. Powerful
4. Outer cover
5. Airline corporation
6. Head covering
12. Strip of wood
13. Snake
14. Vertical
16. Set inside
17. To become liable
19. Yield
21. Bird
22. Cattle enclosure
23. Collision
26. Nautical hail
27. Bright heat
28. Melt

This month's crossword puzzle, like previous ones, is free from traps or alternative solutions, and every word used, apart from names, can be found in a standard dictionary.

There are two sections in this competition, for Home and Overseas readers respectively, and in each prizes of 21/–, 15/– and 10/6 will be awarded for the best solutions. There will be a number of consolation prizes for other good efforts. If necessary the judges will take neatness and novelty into consideration when making their decision. Do not cut out the diagram on this page, but make a careful copy of it, and when you have solved the puzzle write your full name, address and age on the back of your entry.

Entries should be addressed *September Crossword, Meccano Magazine, Binns Road, Liverpool 13.*

The closing date in the Home Section is 30th October 1954, and in the Overseas Section, 31st January 1955.

Find These Ten Aircraft

Here is another of our popular Hidden Aircraft contests. Each of the ten rows of asterisks below, with accompanying capital X, represents the name of a current type of British or American aircraft, an X or an asterisk for each letter of the name. The letters represented by the capital X will reveal, reading diagonally downward, the type of one of the machines named in the puzzle.

```
X * * * * * * *
* X * * * * * *
* * X * * * *
* * * X * * * * *
* * * * X * * * *
* * * * * X * * *
      * * * X * * *
      * * * * X * * *
      * * * * * X * *
      * * * * * * X *
```

Competitors are asked to identify the aircraft completely by giving, in addition to the type, the nationality, maker's name and the duty or duties for which the machine concerned has been designed.

This contest should be found very interesting, but not too difficult—if the meaning of the Xs is found first!

There will be separate sections for Home and Overseas readers, and in each of these prizes of 21/–, 15/– and 10/6 will be awarded, with consolation prizes for other good efforts. Entries must have the competitor's name, address and age written on the back, and be forwarded to *September Aircraft Contest, Meccano Magazine, Binns Road, Liverpool 13.* Closing dates: Home Section, 30th October 1954; Overseas Section, 31st January 1955.

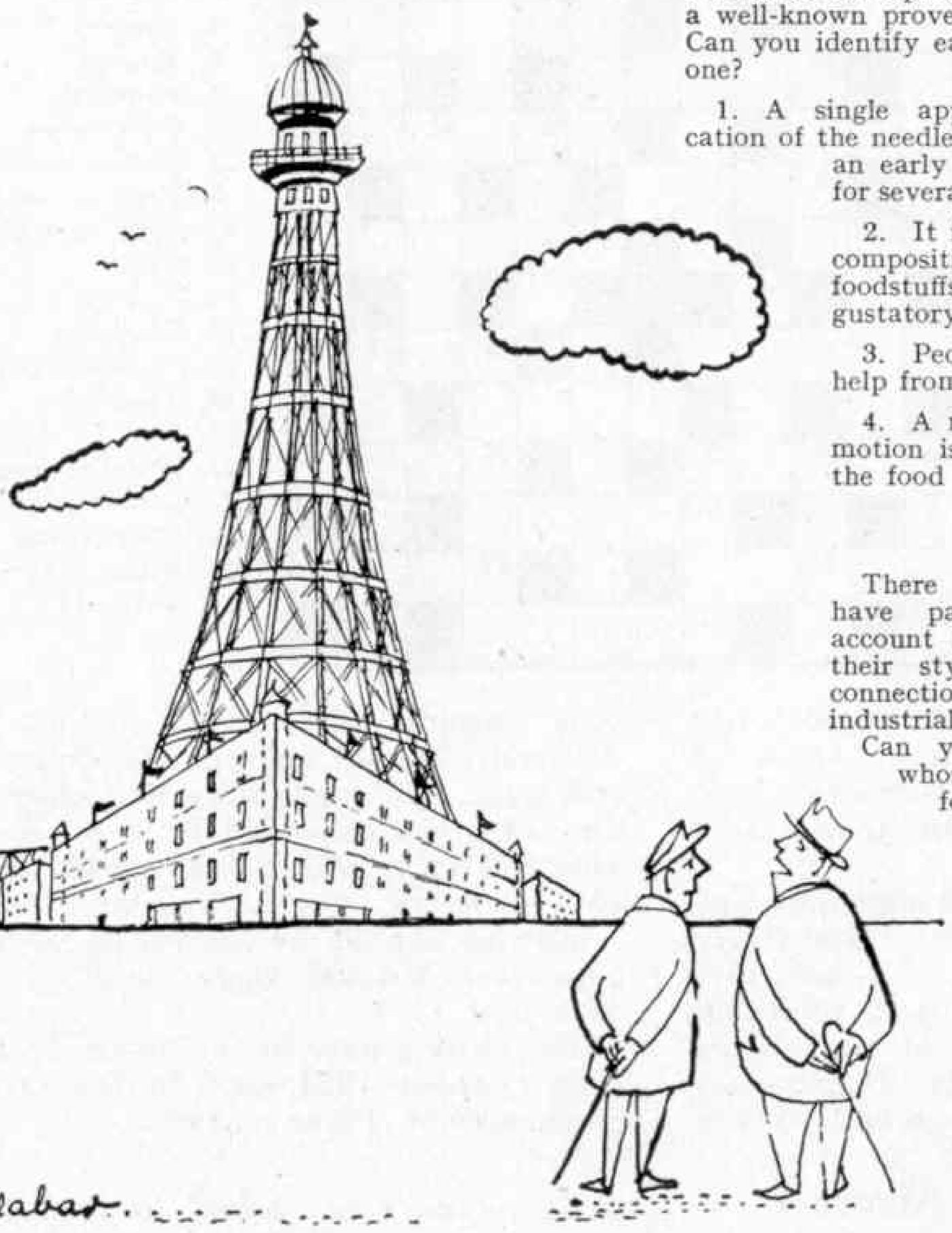
Fireside Fun

An old gentleman walking past an ironmonger's shop saw an air-gun in the window. He went in and enquired "What does that shoot?"

"Slugs, sir," replied the ironmonger.

"Then I'll take one. My garden is full of the little pests."

* * * *



"I didn't realise you had a Meccano Club here."

* * * *

First Workman: "Oo's this 'ere Nero they talks abaht—ain't 'e the chap as discovered the Pole?"

Second Workman: "Nah, silly; that was Zero—another chap altogether."

* * * *

Clerk at Labour Exchange: "Ba! You good for nothing loafer—why if you would only wash and shave and make yourself more presentable, you'd have more chance of getting a job."

Idle Jack: "You're telling me—I found that out years ago."

* * * *

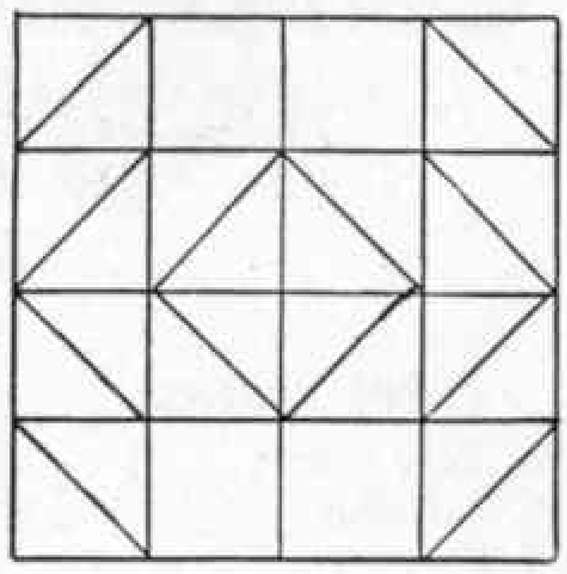
Tourist (in French restaurant): "I want some mushrooms."

Waiter: "Pardon. I not understand."

Taking a paper the tourist drew a sketch of a mushroom. The waiter beamed with intelligence and rushed to execute the order. In a few minutes he returned with—an umbrella!

BRAIN TEASERS

HOW MANY SQUARES?



The diagram shown alongside is composed of a considerable number of squares. See if you can find the exact number.

* * * *

HIDDEN PROVERBS

Each of the following four sentences expresses a well-known proverb. Can you identify each one?

1. A single application of the needle at an early moment eliminates the necessity for several such applications at a later date.

2. It is not possible to possess a baked composition of flour, eggs, butter and other foodstuffs and simultaneously use it for gustatory satisfaction.

3. People who assist themselves receive help from the haven of blest spirits.

4. A mass of earthy mineral matter in motion is not likely to attract onto itself the food of reindeer.

* * * *

FAMOUS NAMES

There are many people whose names have passed into common usage on account of inventions they have made, their style of dress, or their personal connections with some well-known industrial process.

Can you identify the famous people whose names are associated with the following sentences:

1. Sterilised milk.
2. A belt with a special shoulder strap worn by officers.
3. An outer garment that is waterproof.
4. A special safety lamp used by coal miners.
5. A popular type of riding boot covering the knee in front but cut away at the back.
6. A signalling system used in wireless telegraphy.
7. A process for making steel.
8. A well-known hat style for men.
9. A system of wireless picture transmission.

* * * *

SOLUTIONS TO LAST MONTH'S PUZZLES

HIDDEN WORDS

One solution to the "Hidden Words" problem is as follows: LEAPS, PEALS, LAPSE, PALES.

* * * *

FIVE-MINUTE CROSSWORD

The solution to the five-minute crossword is shown alongside. Did you manage to complete it in the time allowed?

L	A	M	B	S
O	■	A	■	I
B	O	M	B	S
E	■	B	■	A
S	H	A	W	L

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This model builds into a realistic motor cruiser by Thorneycroft from three printed cards (in colour) supplied In wrapper with easy-to-follow Instructions. A few drops of methylated spirit (unlit) are sufficient to drive the model for 30 minutes or more. This is a fascinatingly simple yet effective model to build that will give hours of pleasure. Easy to build. If ordered by post, add 2d. for postage.

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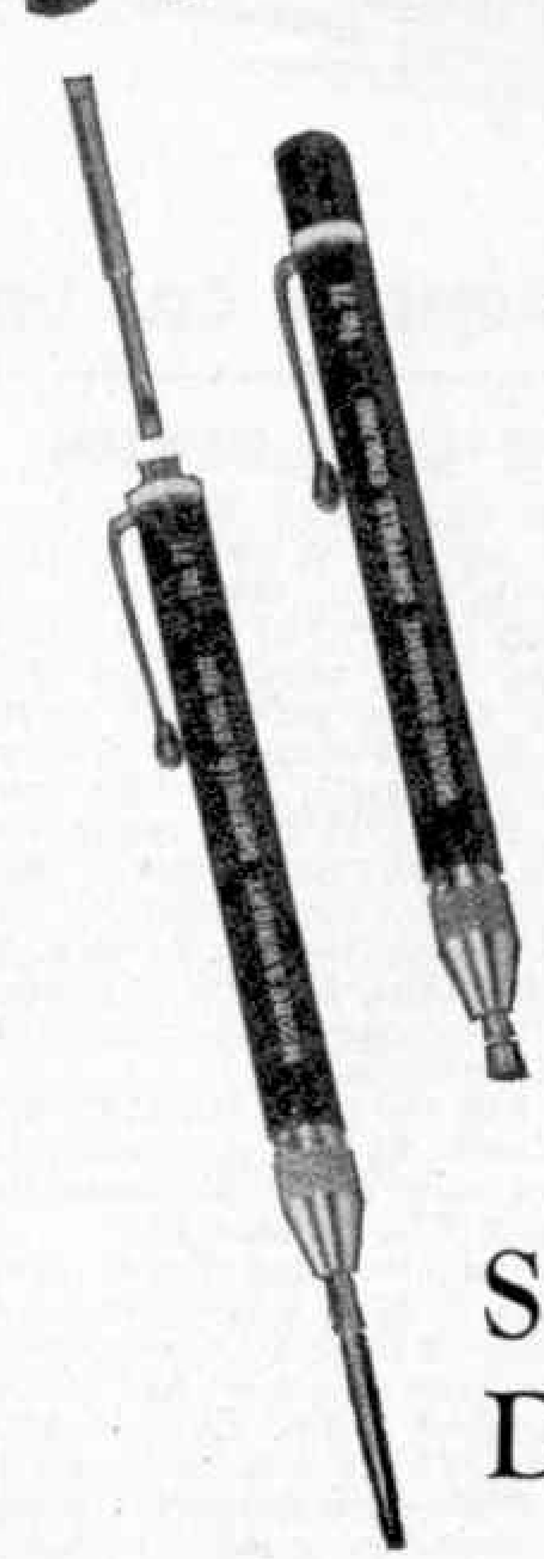
Something NEW for the MODEL MAKER



No. 71

SCRIBE-DRIVER

This tool is a scriber and screwdriver combined. It has an attractive octagonal black plastic body with a knurled chuck at one end, and the blades are of good quality steel, properly hardened and tempered. The screwdriver blade has a machined tang which fits positively in the chuck and resists turning.

A pocket clip is provided, and for safe carriage in the pocket one of the blades can be reversed in the chuck and telescoped inside the body; the remaining blade is accommodated at the other end of the body, which is drilled out and fitted with a screw cap. This is an ideal tool for small screws, and marking out on small work, its cost is 4/–.

Ask your tool dealer or send below for Leaflets No. L.493 on screwdrivers for small, delicate work, with blades in six sizes from .025 to .100; and L.491 describing a Spring Dotting Punch used on small marking jobs requiring care and accuracy.

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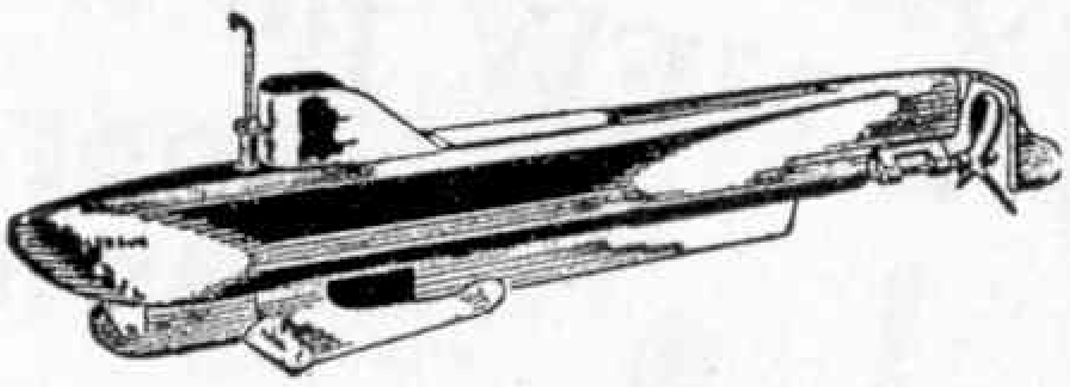

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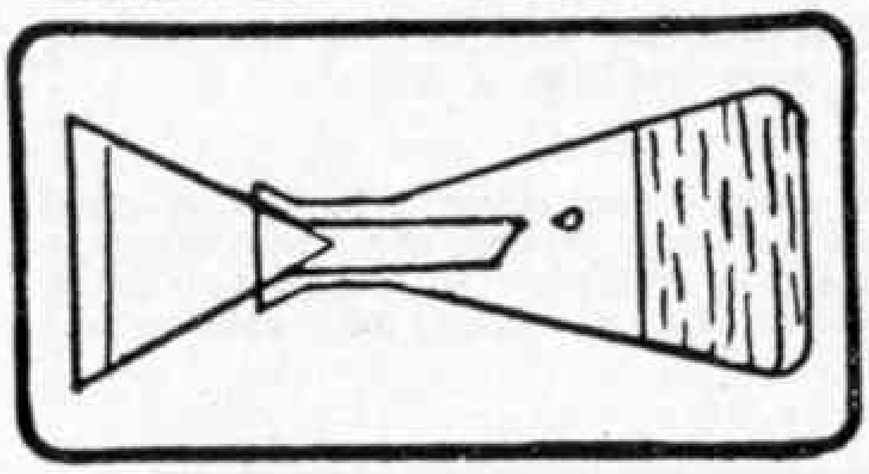

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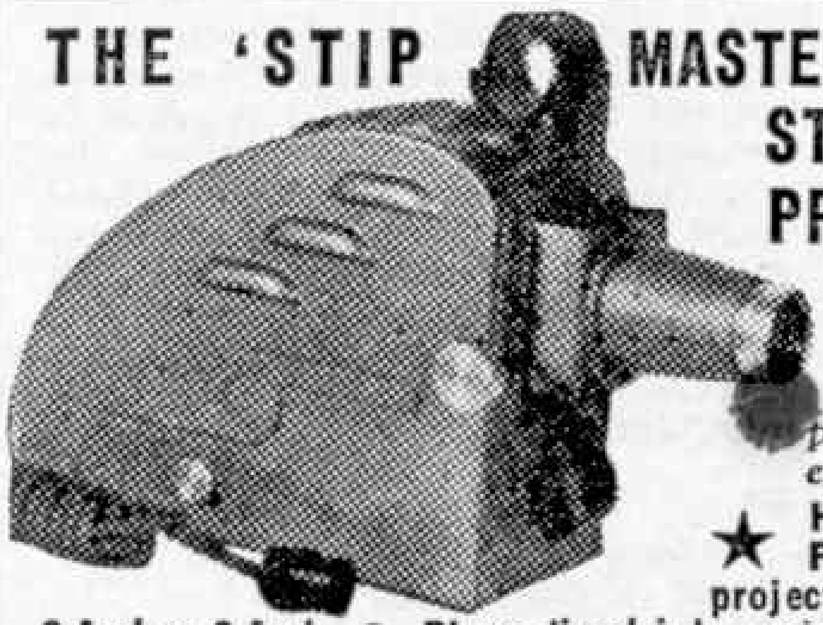

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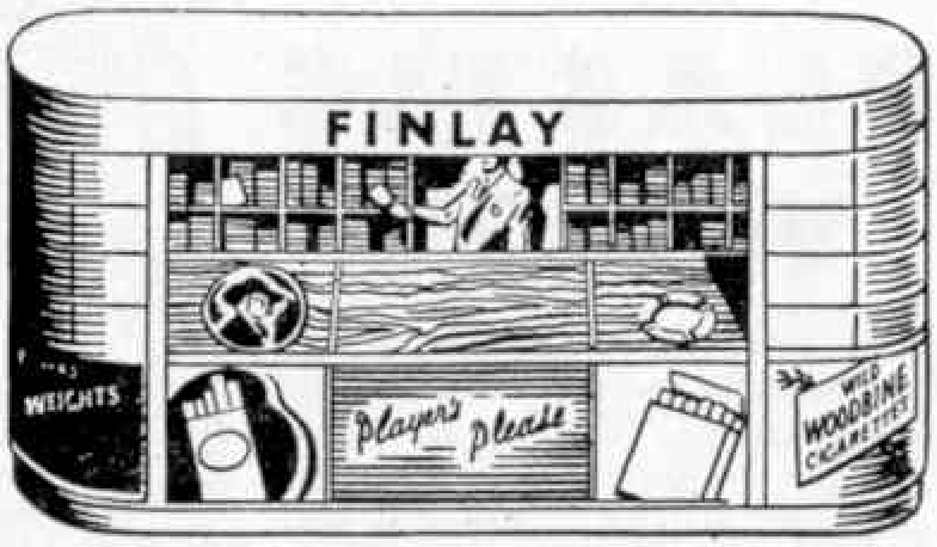

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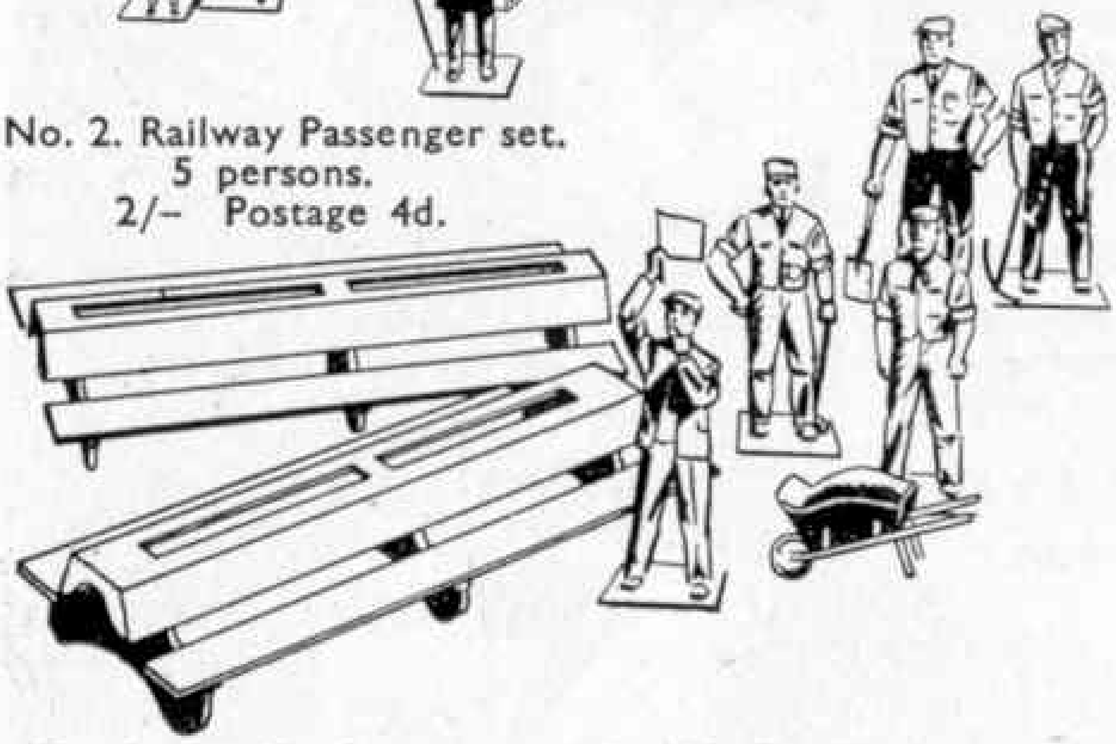

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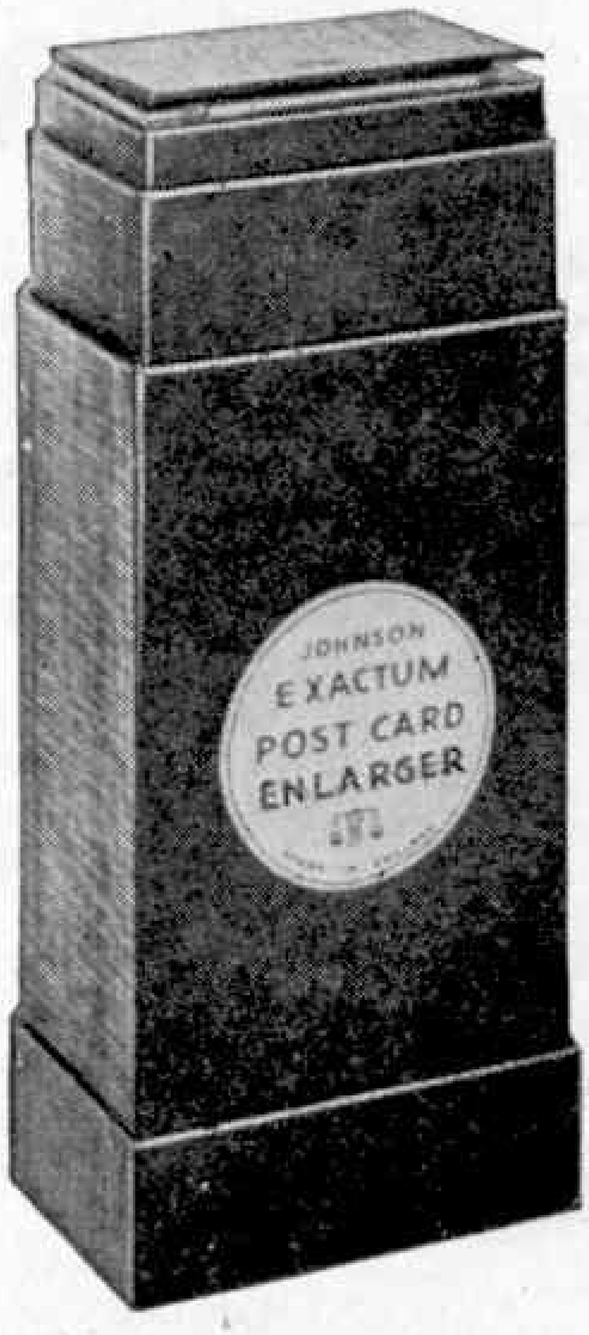

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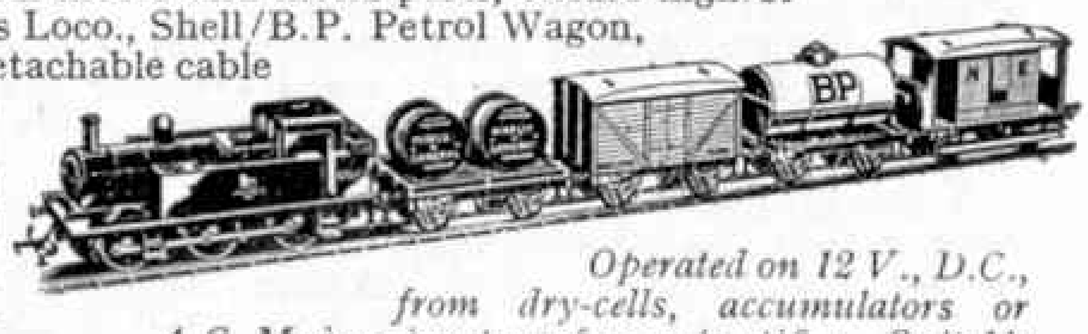

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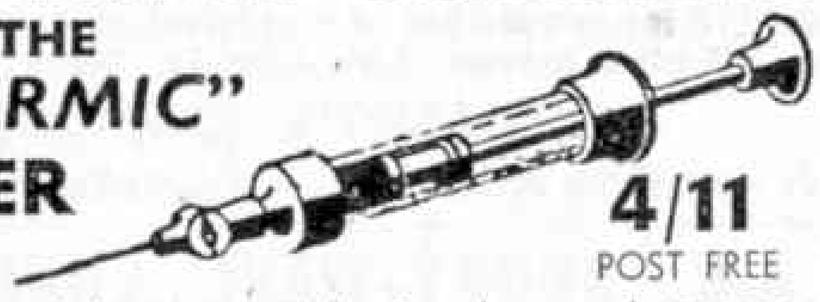

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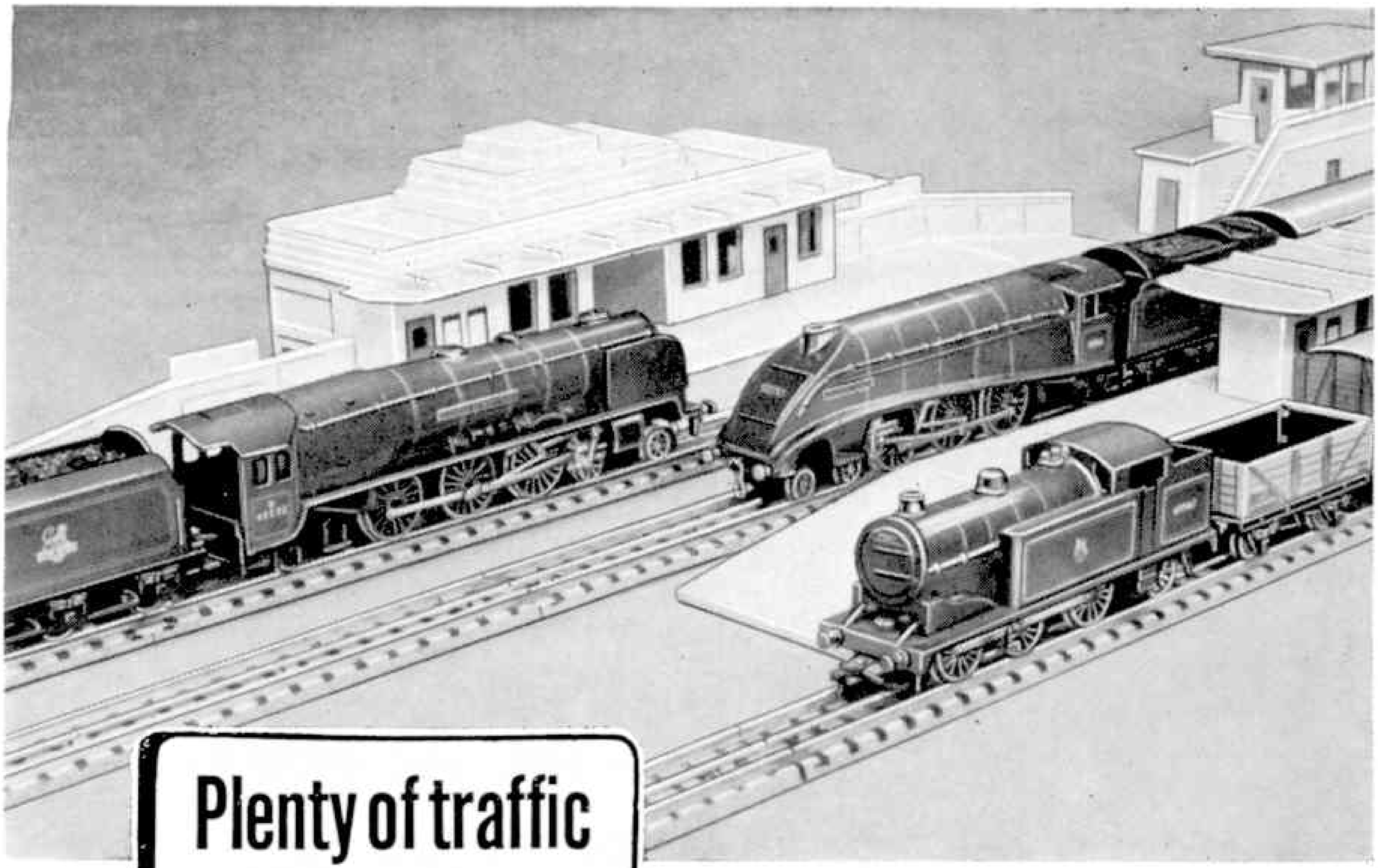

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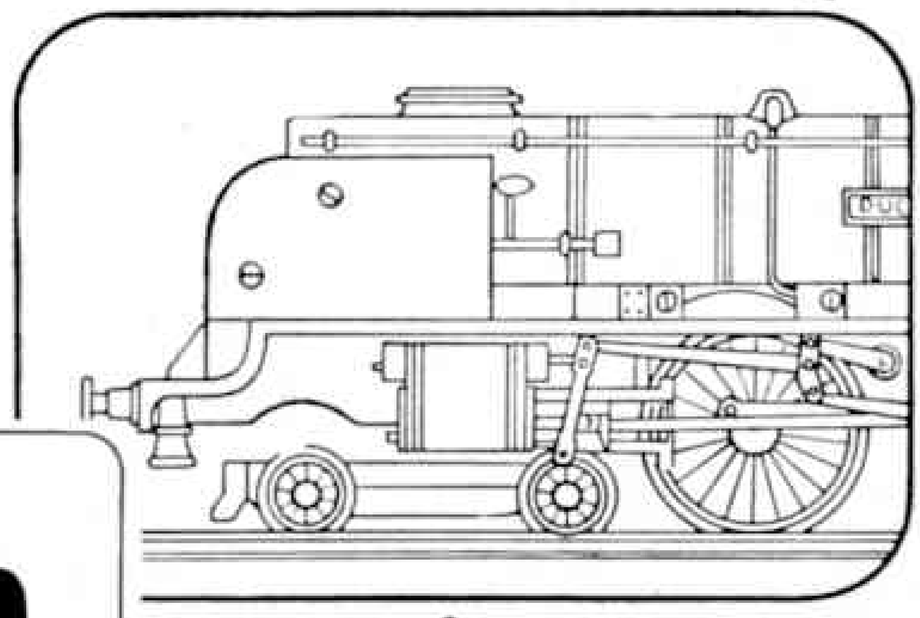

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